

Final Report

**VOLUME II - FIELD SURVEY FORMS**

**FEASIBILITY STUDY FOR HVAC UPGRADE  
FORT RILEY, KANSAS**

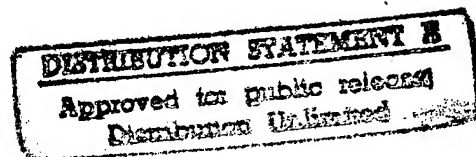
**ENERGY ENGINEERING ANALYSIS PROGRAM (EEAP)**

Prepared for

U.S. Army Corps of Engineers  
Kansas City District  
Kansas City, Missouri

Under

Contract No. DACA01-94-D-0033  
Delivery Order 0005  
EMC No. 1406-005



August 1995

By

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2750 S. Wadsworth, Suite C-200  
Denver, Colorado 80227  
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19971016 191

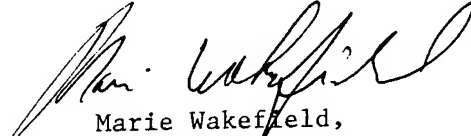


DEPARTMENT OF THE ARMY  
CONSTRUCTION ENGINEERING RESEARCH LABORATORIES, CORPS OF ENGINEERS  
P.O. BOX 9005  
CHAMPAIGN, ILLINOIS 61826-9005

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Marie Wakefield,  
Librarian Engineering



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 0200 BLDG NAME: ADMIN GENERAL PURP

ELECTRIC METER: ☐ Y

CONDITIONED SQFT: 60,690

GAS METER: ☐ N

SUSPECT ACM: ☐ N

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 2

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

### REMARKS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

## AIR HANDLING UNIT SURVEY OBSERVATIONS

BUILDING NUMBER: 0200  
AHU NUMBER: HP-1  
AHU LOCATION: ZONE PERIMETER  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: BASEMENT  
% OF BLDG AREA HEATED: 20

AHU UNIT TYPE HEAT PUMP  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 11,270  
MIN %OA: 0  
CFM-CLG: 11,270  
MAX %OA: 0

## NAMEPLATE

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 3.5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

## COILS

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

## SCHEDULE

DAY SCHEDULE NO: 2  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

## CONTROLS

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: N  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLS? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0200  
AHU NUMBER: HP-2  
AHU LOCATION: ZONE PERIMETER  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: NORTH WING 1ST FLR  
% OF BLDG AREA HEATED: 10

AHU UNIT TYPE HEAT PUMP  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 6,660  
MIN %OA: 0  
CFM-CLG: 6,660  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 2  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: N  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLS? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/18/94

LOCATION: FT. RILEY, KS

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0200

AHU NUMBER: HP-3

AHU LOCATION: ZONE PERIMETER

REFRIG SYS # SRVNG AHU:

SERVES AREA: SOUTHWING 1ST FLR

% OF BLDG AREA HEATED: 10

AHU UNIT TYPE HEAT PUMP

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 5,910

CFM-CLG: 5,910

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 2

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

## AIR HANDLING UNIT SURVEY OBSERVATIONS

BUILDING NUMBER: 0200  
AHU NUMBER: HP-4  
AHU LOCATION: ZONE PERIMETER  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: NORTHWING 2ND FLR  
% OF BLDG AREA HEATED: 10

AHU UNIT TYPE HEAT PUMP  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 8,470  
MIN %OA: 0  
CFM-CLG: 8,470  
MAX %OA: 0

## NAMEPLATE

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 2.5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

## COILS

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

## SCHEDULE

DAY SCHEDULE NO: 2  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: N  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLS? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

## AIR HANDLING UNIT SURVEY OBSERVATIONS

BUILDING NUMBER: 0200  
AHU NUMBER: HP-5  
AHU LOCATION: ZONE PERIMETER  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: SOUTH WING 2ND FLR  
% OF BLDG AREA HEATED: 10

AHU UNIT TYPE HEAT PUMP  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 7,480  
MIN %OA: 0  
CFM-CLG: 7,480  
MAX %OA: 0

## NAMEPLATE

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 2  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

## COILS

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

## SCHEDULE

DAY SCHEDULE NO: 2  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

## CONTROLS

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: N  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0200  
AHU NUMBER: HP-6  
AHU LOCATION: ZONE PERIMETER  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: AUDITORIUM  
% OF BLDG AREA HEATED: 27

AHU UNIT TYPE: HEAT PUMP  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 8,000  
MIN %OA: 13  
CFM-CLG: 8,000  
MAX %OA: 13

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 4  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ N  
RET AIR DMPR CONTROL: ☐ N  
EXH AIR DMPR CONTROL: ☐ N  
MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N  
IMPLEMENT DEMAND LIMIT CNTRLS? ☐ N  
TIME CLOCK: ☐ N  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CVWW

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0200

BOILER RM LOCATION: MER BASEMENT

### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒ **BOILER**  
BOILER TAG: BLR-1  
BOILER TYPE: MED PRESS STEAM (15# TO 125#)  
FUEL TYPE: NAT. GAS

☐ **CONVERTER**  
CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_

☐ **CENTRAL PLANT DIRECT**

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: KEWANEE  
UNIT MODEL: M-205-KX

BLR CAP OUTPUT (BTUH): 2,050,000  
BLR CAP INPUT (BTUH): 2,562,500

COMMENTS: \_\_\_\_\_

### SCHEDULE

DAYS SCHEDULE NO: 10 MONTH SECHDULE NO: 3  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC  
OPERATING SETPOINT: 0 DEG F or PSIG  
TYPE OF BURNER CONTROLS: \_\_\_\_\_  
RESET CONTROLS: Y  
CONTROLS COMMENTS: \_\_\_\_\_

### HW PUMP

PUMP TAG: 1 PUMP HP: 50 PUMP MFG: MARATHON  
PUMP SERVICE: CONDENSOR WATER PUMP PUMP MODEL: TJ324TSTDR7001DNW



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0200

BOILER RM LOCATION: MER BASEMENT

#### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE:



##### BOILER

BOILER TAG: BLR-2  
BOILER TYPE: MED PRESS STEAM (15# TO 125#)  
FUEL TYPE: NAT. GAS

##### CONVERTER

CONVERTER TAG:  
CONVERTER TYPE:  
CONV HT SOURCE:



CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: KEWANEE

UNIT MODEL: M-205-KX

BLR CAP OUTPUT (BTUH): 2,050,000

BLR CAP INPUT (BTUH): 2,562,500

COMMENTS:

#### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: Y

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

#### HW PUMP

PUMP TAG: 1

PUMP HP: 50

PUMP MFG: MARATHON ELECTRIC

PUMP SERVICE: CONDENSOR WATER PUMP

PUMP MODEL: TJ324TSTDR7001DNW

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

## REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS

BLDG NUMBER: 0200 BLDG NAME: ADMIN GENERAL PURP  
REF. UNIT NUMBER/TAG: CT-1 LOCATION (MER#): EAST OF BLDG.  
AHU'S SERVED: ALL HEAT PUMPS  
UNIT TYPE COOLING TOWER

## NAMEPLATE

CHILLER MFG:		TOWER MFG:	AIRCOIL COMPANY
CHILLER MODEL:		# OF TOWER FANS:	2
CHILLER SERIAL NO:		TOWER FAN V:	480
CHILLER V:	0	TOWER FAN AMPS:	3
CHILLER AMPS:	0	TOWER FAN HP:	30
CHILLER PH:	0		
CHILLER CAP (TONS):	0		
COMMENTS:			

## SCHEDULE

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0  
CWR SETPOINT: 0

CNWS SETPOINT: 0  
CNWR SETPOINT: 0

PRESS LITE HI: ☐  
PRESS LITE LOW: ☐  
PRESS GAUGES: ☐

TEMP LITE HI: ☐  
TEMP LITE LOW: ☐  
TEMP GAUGES: ☐

OTHER INDICATORS:

CONTROLS COMMENTS:

## CW and CNW PUMPS

PUMP TAG: 1 PUMP HP: 5 PUMP MFG: US ELECTRIC  
PUMP SERVICE: COOLING TOWER PUMP PUMP MODEL:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

### REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS

BLDG NUMBER: 0200

BLDG NAME: ADMIN GENERAL PURP

REF. UNIT NUMBER/TAG: CT-2

LOCATION (MER#): NORTH OF BLDG

AHU'S SERVED: ALL HEAT PUMPS

UNIT TYPE COOLING TOWER

### NAMEPLATE

CHILLER MFG: \_\_\_\_\_  
CHILLER MODEL: \_\_\_\_\_  
CHILLER SERIAL NO: \_\_\_\_\_  
CHILLER V: \_\_\_\_\_ 0  
CHILLER AMPS: \_\_\_\_\_ 0  
CHILLER PH: \_\_\_\_\_ 0  
CHILLER CAP (TONS): \_\_\_\_\_ 0

TOWER MFG: EVAPCO  
# OF TOWER FANS: 1  
TOWER FAN V: 480  
TOWER FAN AMPS: 3  
TOWER FAN HP: 20

COMMENTS: \_\_\_\_\_

### SCHEDULE

DAYS SCHEDULE NO: 10

MONTHS SCHEDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: ☒ FEB: ☒ MAR: ☒ APR: ☒ MAY: ☒ JUN: ☒ JUL: ☒ AUG: ☒ SEP: ☒ OCT: ☒ NOV: ☒ DEC: ☒

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐ N  
PRESS LITE LOW: ☐ N  
PRESS GAUGES: ☐ N

TEMP LITE HI: ☐ N  
TEMP LITE LOW: ☐ N  
TEMP GAUGES: ☐ N

OTHER INDICATIONS:

CONTROLS COMMENTS: \_\_\_\_\_

### CW and CNW PUMPS

PUMP TAG: 1 PUMP HP: 1

PUMP MFG: CENTURY

PUMP SERVICE: COND WATER PUMP (CNW)

PUMP MODEL: 8-135802-21

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 200

FILE: 200.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	AUDITORIUM STAGE (L) WING					
AHU TYPE:	HEAT PUMP	MFG.:	CLIMATEMASTER	MODEL:	V120-32UASBTCOA			
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

FILE: 200.XLS

BLDG: 200

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

[illegible]

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 10 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN  
FILE: 200.XLS

FILE: 200.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 200

FILE: 200.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1,2	LOCATION (RM)	MER	
BOILER TYPE:	STEAM	MFG.: KEWANEE	MODEL: M-205-KX	
CONVERTER TYPE:		MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor		
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:	BOTH BOILERS THE SAME. #2 BOILER IS RUSTED NEAR TOP AND DOWN ONE SIDE.			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 200' @ 2"
COMMENTS:	ON CR LINES & 25' @ 2-1/2". STEAM VALVE ABOVE BOILER #2 LEAKING			
ONTO BOILER CAUSING RUSTING.				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				





## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/6/94  
PREPARED BY: AJN/DEJ

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 0222 BLDG NAME: ADMIN GEN PURP  
ELECTRIC METER: ☐ N CONDITIONED SQFT: 18,854  
GAS METER: ☐ N  
SUSPECT ACM: ☐ Y

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 56

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	11	7	7	7	7	7	10
REQ STOP:	17	17	20	20	20	20	19

### REMARKS:

Commissary Administration - North part of building on 1st and 2nd floor. Building contact: Thelma Thompson at Ext 3627.  
Mobilization Operations - Center part of building. Liquor Store - North central part of building. Cold storage - South part of building. Suspect ACM in MER on HW piping

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/6/94  
PREPARED BY: AJN/DEJ

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0222  
AHU NUMBER: AHU-1 AHU LOCATION: ATTIC  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: LIQUOR STORE/OPERATIONS  
% OF BLDG AREA HEATED: 60

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 9,800 CFM-CLG: 9,800  
MIN %OA: 10 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: AMERICAN BLOWER UNIT MODEL: 2A18  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: BALDOR RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: M3218T RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 56 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	11	7	7	7	7	7	10
REQ STOP:	17	17	20	20	20	20	19

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 72 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 68 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☒ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRL? ☒  
MAX OA DMPR CONTROL: ☒ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS: HW 2-way valve located in MER

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/6/94  
PREPARED BY: AJN/DEJ

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0222

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT: BLR/CONVERTER SERVES AREA OR SERVICE: ALL



#### BOILER

BOILER TAG: BLR-1  
BOILER TYPE: HW (UP TO 250 DEG)  
FUEL TYPE: NAT. GAS



#### CONVERTER

CONVERTER TAG:  
CONVERTER TYPE:  
CONV HT SOURCE:



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 100

BOILER MFG: BURNHAM

UNIT MODEL: FD/10

BLR CAP OUTPUT (BTUH): 350,000

BLR CAP INPUT (BTUH): 434,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 56

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	11	7	7	7	7	7	10
REQ STOP:	17	17	20	20	20	20	19

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 165 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

### HW PUMP

PUMP TAG: 1

PUMP HP: 0.08

PUMP MFG: B & G

PUMP SERVICE: HW PUMP

PUMP MODEL: UQN48517D1088M

### HW PUMP

PUMP TAG: 2

PUMP HP: 0.13

PUMP MFG: GE

PUMP SERVICE: HW PUMP

PUMP MODEL: 5KH32E6129AX

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/6/94  
PREPARED BY: AJN/DEJ

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

---

**HW PUMP**

---

PUMP TAG:	3	PUMP HP:	0.08	PUMP MFG:	TACO
PUMP SERVICE:	HW PUMP			PUMP MODEL:	120

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/6/94  
PREPARED BY: AJN/DEJ

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 0222 BLDG NAME: ADMIN GEN PURP  
PER RAD (SYSTEM TAG) NO: RAD-1 RAD SYS LOCATION: ADMIN OFFICES  
SOURCE OF HEATING: BLR-1 SERVES AREA: 1ST 2ND FLOOR NORTH  
RADIATION UNIT TYPE: HW % AREA HTG: 17

### RADIATION PUMP

PUMP TAG: 1 PUMP HP: 0.08 PUMP MFG: BELL AND GOSSETT  
PUMP MODEL: UQN48517D1088M

### SCHEDULE

DAYS SCHEDULE NO: 56 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	11	7	7	7	7	7	10
REQ STOP:	17	17	20	20	20	20	19

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS: PNEUMATIC

RADIATION CONTROL: NONE

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: N

CONTROL COMMENTS: 3-way pneumatic control valve in MER

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/6/94  
PREPARED BY: AJN/DEJ

## REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS

BLDG NUMBER: 0222 BLDG NAME: ADMIN GEN PURP  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): SOUTH OF BLDG  
AHU'S SERVED: AHU-1  
UNIT TYPE AIR COOLED CONDENSING UNIT W/ CHW

## NAMEPLATE

CHILLER MFG:	TSI	TOWER MFG:	
CHILLER MODEL:	30A0C055	# OF TOWER FANS:	4
CHILLER SERIAL NO:	5-93-A26983	TOWER FAN V:	208
CHILLER V:	208	TOWER FAN AMPS:	0
CHILLER AMPS:	84	TOWER FAN HP:	1
CHILLER PH:	3		
CHILLER CAP (TONS):	30		
COMMENTS:			

## SCHEDULE

DAYS SCHEDULE NO: 56 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	11	7	7	7	7	7	10
REQ STOP:	17	17	20	20	20	20	19

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐

TEMP LITE HI: ☐

OTHER INDICATIONS:

PRESS LITE LOW: ☐

TEMP LITE LOW: ☐

PRESS GAUGES: ☐

TEMP GAUGES: ☐

CONTROLS COMMENTS:

## CW and CNW PUMPS

PUMP TAG: 1 PUMP HP: 3 PUMP MFG: MARATHON  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL: ZVC182TTDR8026DJ

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 222

FILE: 222.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MEZZANINE				
AHU TYPE:	SZ	MFG.:	AMERICAN BLOWER	MODEL:	2A18		
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)				
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System				
DD - Dual Duct	UH - Unit Heater		IND - Induction System				
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT: X
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:	DAMPERS WIRED & DISCONNECTED FROM ATTENUATOR					DPR-ACT = Damper Actuator	
	1 ACTUATOR FOR O.A. & R.A.					RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK:	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:						RP-ACT = Replace Actuator	
						RP-BD = Replace Body	
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 9 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN  
FILE: 222.XLS

FILE: 222.XLS

[illegible]



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 222

FILE: 222.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER	
BOILER TYPE:	HW	MFG.:	BURNHAM	MODEL: FD/10
CONVERTER TYPE:	N/A	MFG.:		MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK:	REPLACE:
COMMENTS:	LOOKS GOOD, RUST ON RETURN PIPES, NEW BURNER			
BLR PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 10' @ 4"
COMMENTS:	INSULATION VER OLD ON ALL MER PIPING			
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:	WIRES EXPOSED ON MOTORS			
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/6/94

PREPARED BY: AJN/DEJ

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 0302

BLDG NAME: FINANCE ADMIN

ELECTRIC METER: N

CONDITIONED SQFT: 16,138

GAS METER: N

SUSPECT ACM: N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 1

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

**REMARKS:**

Bldg. Contact: Joyce Murrell @ Ext. 6452

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/6/94

PREPARED BY: AJN/DEJ

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0302

AHU NUMBER: AHU-1

AHU LOCATION: mer

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: ALL

% OF BLDG AREA HEATED: 83

AHU UNIT TYPE VAV

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 12,000

MIN %OA: 10

CFM-CLG: 12,000

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE

UNIT MODEL: CCDB17F90G

SUPPLY FAN HP: 15

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	HOT WATER	<input checked="" type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 1

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 68

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: Y

IMPLEMENT DEMAND LIMIT CNTRLs? Y

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: Y

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/6/94  
PREPARED BY: AJN/DEJ

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0302  
AHU NUMBER: AHU-2  
AHU LOCATION: NE CORNER OF BLDG  
REFRIG SYS # SRVNG AHU: ACCU-1  
SERVES AREA: OFFICE/STORAGE  
% OF BLDG AREA HEATED: 2

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 450  
MIN %OA: 0

CFM-CLG: 450  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG: \_\_\_\_\_ UNIT MODEL: \_\_\_\_\_  
SUPPLY FAN HP: 0.33 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: \_\_\_\_\_ RET/EXH FAN MTR MFG: \_\_\_\_\_  
SUPPLY FAN MTR MODEL: \_\_\_\_\_ RET/EXH FAN MTR MODEL: \_\_\_\_\_  
COMMENTS: \_\_\_\_\_

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	ELECTRIC	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 1 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 72  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 70  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP: \_\_\_\_\_  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/6/94  
PREPARED BY: AJN/DEJ

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0302  
AHU NUMBER: UH-1-4 AHU LOCATION: ATTIC STORAGE AREA  
REFRIG SYS # SRVNG AHU: N/A SERVES AREA: ATTIC STORAG/SUPPLY AREA  
% OF BLDG AREA HEATED: 15

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT: 1

CFM-HTG: 2,520  
MIN %OA: 0

CFM-CLG: 0  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG: MCQUAY UNIT MODEL: UDH-040B  
SUPPLY FAN HP: 0.33 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 1 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 72 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLs? N  
MAX OA DMPR CONTROL: N ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/6/94  
PREPARED BY: AJN/DEJ

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0302

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT ☒ **BOILER** ☐ **CONVERTER**  
BLR/CONVERTER SERVES AREA OR SERVICE: ALL  
BOILER TAG: BLR-1  
BOILER TYPE: HW (UP TO 250 DEG)  
FUEL TYPE: NAT. GAS  
CONVERTER TAG:  
CONVERTER TYPE:  
CONV HT SOURCE:  
☐ CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION:

BOILER MFG: AJAX  
UNIT MODEL: V554744

BLR CAP OUTPUT (BTUH): 600,000  
BLR CAP INPUT (BTUH): 750,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 1

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS:  
OPERATING SETPOINT: 150 DEG F or PSIG  
TYPE OF BURNER CONTROLS:  
CONTROLS COMMENTS:

RESET CONTROLS: ☒ Y

### HW PUMP

PUMP TAG: 1 PUMP HP: 1.5  
PUMP SERVICE: HW PUMP (STAND BY)

PUMP MFG: B & G  
PUMP MODEL: M98558

### HW PUMP

PUMP TAG: 2 PUMP HP: 1.5  
PUMP SERVICE: HW PUMP (STANDBY)

PUMP MFG: B & G  
PUMP MODEL: M98558

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/6/94  
PREPARED BY: AJN/DEJ

### REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS

BLDG NUMBER: 0302 BLDG NAME: FINANCE ADMIN  
REF. UNIT NUMBER/TAG: ACCU-1 LOCATION (MER#): EXTERIOR OF BLDG.  
AHU'S SERVED: AHU-2  
UNIT TYPE AIR COOLED CONDENSING UNIT, DX

### NAMEPLATE

CHILLER MFG:	LIEBERT	TOWER MFG:	
CHILLER MODEL:	3024968	# OF TOWER FANS:	1
CHILLER SERIAL NO:		TOWER FAN V:	0
CHILLER V:	0	TOWER FAN AMPS:	0
CHILLER AMPS:	0	TOWER FAN HP:	0.25
CHILLER PH:	0		
CHILLER CAP (TONS):	3		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 1 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0  
CWR SETPOINT: 0

CNWS SETPOINT: 0  
CNWR SETPOINT: 0

PRESS LITE HI: ☐  
PRESS LITE LOW: ☐  
PRESS GAUGES: ☐

TEMP LITE HI: ☐  
TEMP LITE LOW: ☐  
TEMP GAUGES: ☐

OTHER INDICATIONS:

CONTROLS COMMENTS:



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/6/94  
PREPARED BY: AJN/DEJ

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 0302 BLDG NAME: FINANCE ADMIN  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): S. EXTERIOR OF BLDG.  
AHU'S SERVED: AHU-1  
UNIT TYPE AIR COOLED CONDENSING UNIT, DX

### NAMEPLATE

CHILLER MFG: TRANE  
CHILLER MODEL: RAUBC265BE00B  
CHILLER SERIAL NO: J87C80764  
CHILLER V: 200  
CHILLER AMPS: 91.5  
CHILLER PH: 3  
CHILLER CAP (TONS): 25

TOWER MFG: TRANE  
# OF TOWER FANS: 3  
TOWER FAN V: 200  
TOWER FAN AMPS: 4.1  
TOWER FAN HP: 1

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 1 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0  
CWR SETPOINT: 0

CNWS SETPOINT: 0  
CNWR SETPOINT: 0

PRESS LITE HI: ☐  
PRESS LITE LOW: ☐  
PRESS GAUGES: ☐

TEMP LITE HI: ☐  
TEMP LITE LOW: ☐  
TEMP GAUGES: ☐

OTHER INDICATORS:

CONTROLS COMMENTS:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

Nov-94

PREPARED BY:

AJN

CHECKED BY:

AJN

BLDG:

302

FILE:

302.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER
AHU TYPE:	MFG.:	TRANE	MODEL: CLIMATE CHANGER
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)	
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System	
DD - Dual Duct	UH - Unit Heater	IND - Induction System	
O.A. DAMPER	N/A:	OK: X	REPLACE: SIZE: DPR-ACT OK: RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE: SIZE: DPR-ACT OK: RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE: SIZE: DPR-ACT OK: RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE: SIZE: DPR-ACT OK: RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE: SIZE: DPR-ACT OK: RP- ACT:
COMMENTS: DPR-ACT = Damper Actuator			
RP-ACT = Replace Actuator			
FILTER SECTION	N/A:	OK: X	REPLACE: SIZE:
COMMENTS:			
SUPPLY AIR FAN	OK:	REPLACE FAN BEARINGS: *	COMMENTS: FAN BEARING IS NOISY (PULLEYSIDE)
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:
INLET VANES	N/A: X	OK:	COMMENTS:
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A
COMMENTS:			
COOLING COIL	N/A:	OK: X	REPLACE: SIZE: CNTLVLV OK: RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE: SIZE: CNTLVLV OK: RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE: SIZE: CNTLVLV OK: RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE: SIZE: CNTLVLV OK: RP- ACT: RP-BD:
COMMENTS: RP-ACT = Replace Actuator			
RP-BD = Replace Body			
AHU PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
AHU PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
PIPE INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
DUCT INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
COMMENTS:			

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

FILE: 302.XLS

BLDG: 302

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 302

FILE: 302.XLS

**REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS**

CHILLER / EQUIP. NO.	ACCU-1	LOCATION (RM)	OUTSIDE
REFG. EQUIP. TYPE:	MFG.:	LIEBERT CORP.	MODEL: 302-1968
C-WCT = Centrifugal w/ Water Side Cooling Tower		R-ACCU = Reciprocating w/ Air Cooled Condensing Unit	
R-WCT = Reciprocating w/ Water Side Cooling Tower		ASB-WCT = Absorption w/ Water Side Cooling Tower	
ACCU = Air Cooled Condensing Unit		CT = Cooling Tower	
COMP. MOTOR	N/A:	OK: X	REPLACE: SIZE:
COMP. MOTOR	N/A:	OK:	REPLACE: SIZE:
COMP. MOTOR	N/A:	OK:	REPLACE: SIZE:
COMP. MOTOR	N/A:	OK:	REPLACE: SIZE:
CT/ACCU FAN MTR	N/A:	OK: X	REPLACE: SIZE:
CT/ACCU FAN MTR	N/A: X	OK:	REPLACE: SIZE:
CT/ACCU FAN MTR	N/A: X	OK:	REPLACE: SIZE:
COMMENTS: SERVES CRU WHICH US INACCESSIBLE. IT LOOKS GOOD. AREA SERVED IS APPROX. 25' X 14'.			
COOLING TOWER	N/A: X	OK:	REPLACE: SIZE:
AIR COOLED COND.	N/A:	OK: X	REPLACE: SIZE:
COMMENTS:			
CHILLER INSUL.	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
CHW PIPE INSUL.	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			
CHW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
CHW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
CHW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
CHW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
CHW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
CHW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
CHW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
CHW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 302

FILE: 302.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER	
BOILER TYPE:	HW	MFG.: AJAX	MODEL: WG-750-D	
CONVERTER TYPE:		MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter		
BOILER BURNER	ATMOSPHERIC: X	POWER:	OK:	REPLACE:
COMMENTS:	GASKET LEAKY ON FRONT PLATE			
	ELECTRIC METER			
	NO GAS METER			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/6/94

PREPARED BY: AJN

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 0313 BLDG NAME: CIV PERS BLDG  
ELECTRIC METER: ☐ N  
GAS METER: ☐ N  
SUSPECT ACM: ☐ N  
CONDITIONED SQFT: 6,222

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 11

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

### REMARKS:

BLDG. CONTACT: KAREN WEBB @ EXT. 2535

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/6/94

PREPARED BY: AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0313

AHU NUMBER: AHU-1

AHU LOCATION: BASEMENT

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: ALL

% OF BLDG AREA HEATED: 100

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 4,500

MIN %OA: 20

CFM-CLG: 4,500

MAX %OA: 20

**NAMEPLATE**

UNIT MFG: MODINE

UNIT MODEL: DJ3005

SUPPLY FAN HP: 2

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS: DUCT FURNANCE: INPUT =300,000 BTUH; OUTPUT: 240,000 BTUH

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 11

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SETBACK

PRESENT TEMP WINTR OCC: 74

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 74

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLS? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/6/94  
PREPARED BY: AJN

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 0313

BLDG NAME: CIV PERS BLDG

REF. UNIT NUMBER/TAG: CH-1

LOCATION (MER#): S. EXT. OF BLDG

AHU'S SERVED: AHU-1

UNIT TYPE AIR COOLED CONDENSING UNIT, DX

### NAMEPLATE

CHILLER MFG:	BRYANT	TOWER MFG:	
CHILLER MODEL:	566CPX135000AAAA	# OF TOWER FANS:	2
CHILLER SERIAL NO:	4382G9855	TOWER FAN V:	230
CHILLER V:	230	TOWER FAN AMPS:	3.6
CHILLER AMPS:	46	TOWER FAN HP:	0.5
CHILLER PH:	3		
CHILLER CAP (TONS):	13.5		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 11

MONTHS SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐ N  
PRESS LITE LOW: ☐ N  
PRESS GAUGES: ☐ N

TEMP LITE HI: ☐ N  
TEMP LITE LOW: ☐ N  
TEMP GAUGES: ☐ N

OTHER INDICATORS:

CONTROLS COMMENTS:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

9 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

BLDG:

313

FILE:

313.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	BASEMENT					
AHU TYPE: RES. TYPE FURNACE	MFG.:	MODINE	MODEL:	DJ300SF				
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System					3,000,000 BTU/HR INPUT	
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS: 20% OUTSIDE AIR WITH NO CONTROL								DPR-ACT = Damper Actuator
								RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS: FURNACE RUNNING								RP-ACT = Replace Actuator
								RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 9 Nov-94  
PREPARED BY: AJN  
CHECKED BY: AJN  
FILE: 313.XLS

FILE: 313.XLS

[illegible]



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 0500 BLDG NAME: POST HQ BLDG  
ELECTRIC METER: N  
GAS METER: N  
SUSPECT ACM: N  
CONDITIONED SQFT: 65,453

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 2

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

### REMARKS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0500

AHU NUMBER: HP-1

AHU LOCATION: BSMT SOUTH

REFRIG SYS # SRVNG AHU:

SERVES AREA: BSMT SOUTH

% OF BLDG AREA HEATED: 16

AHU UNIT TYPE HEAT PUMP

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 6,960

CFM-CLG: 6,960

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 1.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0500

AHU NUMBER: HP-2

AHU LOCATION: BSMT NORHT

REFRIG SYS # SRVNG AHU:

SERVES AREA: BSMNT NORTH

% OF BLDG AREA HEATED: 17

AHU UNIT TYPE HEAT PUMP

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 8,300

MIN %OA: 0

CFM-CLG: 8,300

MAX %OA: 0

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 1.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLS? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0500  
AHU NUMBER: HP-3  
AHU LOCATION: 1ST FLR SOUTH  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: 1ST FLR SOUTH  
% OF BLDG AREA HEATED: 15

AHU UNIT TYPE HEAT PUMP  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 8,440  
MIN %OA: 0  
CFM-CLG: 8,440  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 3  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: N  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0500  
AHU NUMBER: HP-4  
AHU LOCATION: 1ST FLR NORTH  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: 1ST FLR NORTH  
% OF BLDG AREA HEATED: 18

AHU UNIT TYPE HEAT PUMP  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 13,760  
MIN %OA: 0  
CFM-CLG: 13,760  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ N  
RET AIR DMPR CONTROL: ☐ N  
EXH AIR DMPR CONTROL: ☐ N  
MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N  
IMPLEMENT DEMAND LIMIT CNTRLS? ☐ N  
TIME CLOCK: ☐ N  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0500  
AHU NUMBER: HP-5 AHU LOCATION: 2ND FLR  
REFRIG SYS # SRVNG AHU: SERVES AREA: 2ND FLR  
% OF BLDG AREA HEATED: 20

AHU UNIT TYPE HEAT PUMP NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 15,480 CFM-CLG: 15,480  
MIN %OA: 0 MAX %OA: 0

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: 0  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLs? N  
MAX OA DMPR CONTROL: N ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR: 0  
CONTROLS COMMENTS: 0

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0500

AHU NUMBER: HP-6

AHU LOCATION: 3RD FLR

REFRIG SYS # SRVNG AHU:

SERVES AREA: 3RD FLR

% OF BLDG AREA HEATED: 14

AHU UNIT TYPE HEAT PUMP

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 9,750

MIN %OA: 0

CFM-CLG: 9,750

MAX %OA: 0

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 3

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLS? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CVWW

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0500

BOILER RM LOCATION: MER BASEMENT

### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒ **BOILER**  
BOILER TAG: BLR-1  
BOILER TYPE: LOW PRESS STEAM (<15#)  
FUEL TYPE: NAT. GAS

☐ **CONVERTER**  
CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_

☐ **CENTRAL PLANT DIRECT**

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: AJAX  
UNIT MODEL: SGXFD-4250  
COMMENTS: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 3,400,000  
BLR CAP INPUT (BTUH): 4,250,000

### SCHEDULE

DAYS SCHEDULE NO: 10 MONTH SECHDULE NO: 3  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC  
OPERATING SETPOINT: 10 DEG F or PSIG  
TYPE OF BURNER CONTROLS: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_

RESET CONTROLS: ☒ Y

### HW PUMP

PUMP TAG: 1 PUMP HP: 40 PUMP MFG: BALDOR  
PUMP SERVICE: CONDENSER WATER PUMP PUMP MODEL: M2539T

### HW PUMP

PUMP TAG: 2 PUMP HP: 40 PUMP MFG: BALDOR  
PUMP SERVICE: CONDENSER WATER PUMP PUMP MODEL: M2539T

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 0500 BLDG NAME: POST HQ BLDG  
REF. UNIT NUMBER/TAG: CT-2 LOCATION (MER#): MER  
AHU'S SERVED: ALL HEAT PUMPS  
UNIT TYPE OTHER

### NAMEPLATE

CHILLER MFG:		TOWER MFG:	BALTIMORE
CHILLER MODEL:		# OF TOWER FANS:	3
CHILLER SERIAL NO:		TOWER FAN V:	0
CHILLER V:	0	TOWER FAN AMPS:	0
CHILLER AMPS:	0	TOWER FAN HP:	30
CHILLER PH:	0		
CHILLER CAP (TONS):	0		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: N

TEMP LITE HI: N

OTHER INDICATIONS:

PRESS LITE LOW: N

TEMP LITE LOW: N

PRESS GAUGES: N

TEMP GAUGES: N

CONTROLS COMMENTS:

### CW and CNW PUMPS

PUMP TAG: 1 PUMP HP: 5 PUMP MFG: GE  
PUMP SERVICE: COOLING TOWER PUMP MODEL: 5K182JX27A

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CVWW

## REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS

BLDG NUMBER: 0500 BLDG NAME: POST HQ BLDG  
REF. UNIT NUMBER/TAG: CT-1 LOCATION (MER#):  
AHU'S SERVED: ALL HEAT PUMPS  
UNIT TYPE OTHER

## NAMEPLATE

CHILLER MFG:		TOWER MFG:	BALTIMORE
CHILLER MODEL:		# OF TOWER FANS:	3
CHILLER SERIAL NO:		TOWER FAN V:	0
CHILLER V:	0	TOWER FAN AMPS:	0
CHILLER AMPS:	0	TOWER FAN HP:	30
CHILLER PH:	0		
CHILLER CAP (TONS):	0		
COMMENTS:			

## SCHEDULE

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI: ☐ TEMP LITE HI: ☐ OTHER INDICATIONS:  
PRESS LITE LOW: ☐ TEMP LITE LOW: ☐  
PRESS GAUGES: ☐ TEMP GAUGES: ☐

CONTROLS COMMENTS:

## CW and CNW PUMPS

PUMP TAG: 1 PUMP HP: 5 PUMP MFG: GE  
PUMP SERVICE: COOLING TOWER PUMP MODEL: 5K182JX27A

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 500

FILE: 500.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	HP-1	LOCATION (Rm)	Throughout building					
AHU TYPE:	Heat Pum	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 11 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN  
FILE: 500 XLS

FILE: 500.XLS

[illegible]



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 500

FILE: 500.XLS

BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS				
BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER BASEMENT	
BOILER TYPE:	STM	MFG.:	MODEL:	
CONVERTER TYPE:		MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter		
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTO	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTO	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTO	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTO	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: JM

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 0509

BLDG NAME: ADM GEN PURPOSE

ELECTRIC METER: ☐ Y

CONDITIONED SQFT: 10,108

GAS METER: ☐ N

SUSPECT ACM: ☐ N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 2

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0509

AHU NUMBER: HP-1

AHU LOCATION: ZONE PERIMETER

REFRIG SYS # SRVNG AHU:

SERVES AREA: ALL

% OF BLDG AREA HEATED: 100

AHU UNIT TYPE HEAT PUMP

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 8,440

MIN %OA: 0

CFM-CLG: 8,440

MAX %OA: 0

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 1.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 509

FILE: 509.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	HP-1	LOCATION (Rm)	BASEMENT					
AHU TYPE:	HEAT PUMP	MFG.:	FHP MFG. DIVISION OF HARROW			MODEL:	HE012-1HZN	
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	WATER SOURCE HEAT PUMP. WATER SOURCE IS FROM BLDG.							DPR-ACT = Damper Actuator
	500. COOLING TOWERS NEXT TO BLDG. ARE IN GOOD CONDITION.							RP-ACT = Replace Actuator
	HEAT PUMP IS TYPICAL THROUGHOUT BLDG.							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A					
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:								RP-ACT = Replace Actuator
								RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/14/94

PREPARED BY: AJN

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 5000

BLDG NAME: FIRE STATION

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 8,400

GAS METER: ☐ N

SUSPECT ACM: ☐ Y

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

### REMARKS:

Two gas-fired infrared heaters in bay, reverber ray 24" x 24"

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/14/94

PREPARED BY: AJN

## AIR HANDLING UNIT SURVEY OBSERVATIONS

BUILDING NUMBER: 5000

AHU NUMBER: AHU-1

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: COMMUNICATIONS/QUARTER

% OF BLDG AREA HEATED: 60

AHU UNIT TYPE MULTI ZONE

NUMBER OF ZONES IF MZ UNIT: 5

CFM-HTG: 4,155

MIN %OA: 20

CFM-CLG: 4,155

MAX %OA: 20

## NAMEPLATE

UNIT MFG: DUNHAM BUSH

UNIT MODEL: VMZ32D

SUPPLY FAN HP: 5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

## COILS

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input checked="" type="checkbox"/>

## SCHEDULE

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 70

HOT DECK DEG F: 120

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 70

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/14/94

PREPARED BY: AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 5000

AHU NUMBER: AHU-2

AHU LOCATION: ABOVE CEILING

REFRIG SYS # SRVNG AHU:

SERVES AREA: VEHICLE MAINT. BAY

% OF BLDG AREA HEATED: 40

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,840

MIN %OA: 100

CFM-CLG: 0

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 1.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: CENTURY

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 70

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLS? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/14/94  
PREPARED BY: AJN

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 5000

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒ **BOILER**  
BOILER TAG: BLR-1  
BOILER TYPE: HW (UP TO 250 DEG)  
FUEL TYPE: NAT. GAS

☐ **CONVERTER**  
CONVERTER TAG:   
CONVERTER TYPE:   
CONV HT SOURCE:   
  
☐ CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION:

BOILER MFG: AJAX  
UNIT MODEL: WG-750

BLR CAP OUTPUT (BTUH): 600,000  
BLR CAP INPUT (BTUH): 750,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 10 MONTH SECHDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☐ ☐ ☐ ☐ ☐ ☒ ☒ ☒

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC  
OPERATING SETPOINT: 170 DEG F or PSIG  
TYPE OF BURNER CONTROLS:   
RESET CONTROLS: Y  
CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/14/94  
PREPARED BY: AJN

### REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS

BLDG NUMBER: 5000

BLDG NAME: FIRE STATION

REF. UNIT NUMBER/TAG: CH-1

LOCATION (MER#): OUTSIDE

AHU'S SERVED: AHU-1

UNIT TYPE AIR COOLED CONDENSING UNIT

### NAMEPLATE

CHILLER MFG: TSI  
CHILLER MODEL: 502CS10  
CHILLER SERIAL NO: 9084-2  
CHILLER V: 230  
CHILLER AMPS: 42.8  
CHILLER PH: 3  
CHILLER CAP (TONS): 10

TOWER MFG:  
# OF TOWER FANS: 1  
TOWER FAN V: 230  
TOWER FAN AMPS: 4.6  
TOWER FAN HP: 1

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 10

MONTHS SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐

TEMP LITE HI: ☐

OTHER INDICATIONS:

PRESS LITE LOW: ☐

TEMP LITE LOW: ☐

PRESS GAUGES: ☐

TEMP GAUGES: ☐

CONTROLS COMMENTS:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 5000

FILE: 5000.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER
AHU TYPE:	MZ-5	MFG.:	DUNHAM-BUSH
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)	
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System	
DD - Dual Duct	UH - Unit Heater	IND - Induction System	
O.A. DAMPER	N/A: X	OK:	REPLACE:
R.A. DAMPER	N/A: X	OK:	REPLACE:
E.A. DAMPER	N/A: X	OK:	REPLACE:
F. & B. DAMPER	N/A: X	OK:	REPLACE:
ZONE DAMPER	N/A:	OK: X	REPLACE:
COMMENTS:			
DPR-ACT = Damper Actuator			
RP-ACT = Replace Actuator			
FILTER SECTION	N/A:	OK: X	REPLACE:
COMMENTS:			
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:
INLET VANES	N/A: X	OK:	COMMENTS:
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:
COMMENTS:			
COOLING COIL	N/A:	OK: X	REPLACE:
HEATING COIL	N/A:	OK: X	REPLACE:
PREHEAT COIL	N/A: X	OK:	REPLACE:
REHEAT COIL	N/A: X	OK:	REPLACE:
COMMENTS:			
RP-ACT = Replace Actuator			
RP-BD = Replace Body			
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:
AHU PUMP SEALS	N/A: X	OK:	REPLACE:
COMMENTS:			
PIPE INSULATION	N/A:	OK: X	MISSING:
DUCT INSULATION	N/A: X	OK:	MISSING:
COMMENTS:			

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

BLDG: 5000

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

FILE: 5000.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	H&V-1	LOCATION (Rm)	ABOVE CEILING (SERVES BAYS)				
AHU TYPE:	H&V	MFG.:	MODEL:				
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:				
COMMENTS:							
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 5000

FILE: 5000.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:		IR-1&2		LOCATION (Rm)			
AHU TYPE: INFRARED HEATER		MFG.:		RE-VERBER-RAY		MODEL: DR 100 NSPI-8-25V	
SZ - Single Zone		H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)			
MZ - Multizone		VAV - Variable Air Vol.		RHT - Reheat System			
DD - Dual Duct		UH - Unit Heater		IND - Induction System			
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:		TYPICAL OF 2				DPR-ACT = Damper Actuator	
		NATURAL GAS FIRED; OPERABLE				RP-ACT = Replace Actuator	
FILTER SECTION	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A	
SUPPLY FAN MOTOR	OK:	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A	
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:		RP-ACT = Replace Actuator					
		RP-BD = Replace Body					
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 5000

FILE: 5000.XLS

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 5000

FILE: 5000.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER		
BOILER TYPE:	HW	MFG.:	AJAX	MODEL:	WG-750
CONVERTER TYPE:		MFG.:		MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor			
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor			
BOILER BURNER	ATMOSPHERIC: X	POWER:	OK: X	REPLACE:	
COMMENTS:	BOILER LOOKS OLD. CHEMICAL PILES FROM PAST LEAKS ON SAFETY RELIEF VALVE.				
BLR PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
BLR PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
COMMENTS:					
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:	
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:	
COMMENTS:					
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:	.08 HP
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:	
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
COMMENTS:					
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:	
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:	
COMMENTS:					
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:	
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:	
COMMENTS:					



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 11/09/94  
PREPARED BY: AJN/CWW

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 7178 BLDG NAME: MOTOR POOL ADMIN  
ELECTRIC METER: ☐ N  
GAS METER: ☐ N  
SUSPECT ACM: ☐ N  
CONDITIONED SQFT: 2,480

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 7

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRES STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
REQ START:	<u>0</u>	<u>9</u>	<u>8</u>	<u>9</u>	<u>12</u>	<u>9</u>	<u>0</u>
REQ STOP:	<u>0</u>	<u>17</u>	<u>17</u>	<u>17</u>	<u>15</u>	<u>17</u>	<u>0</u>

### REMARKS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 11/09/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7178  
AHU NUMBER: UH-1  
AHU LOCATION: CEILING MOUNTED  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: OFFICES/SHOP  
% OF BLDG AREA HEATED: 50

AHU UNIT TYPE GAS FIRED UH  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 600  
MIN %OA: 0  
CFM-CLG: 0  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG: DAYTON FUEL TRIMMER  
UNIT MODEL: 3E368A  
SUPPLY FAN HP: 0.08  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS: BTUH INPUT: 75,000; BTU OUTPUT: 60750

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 7  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	8	9	12	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☐ ☐ ☐ ☐ ☐ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: N  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 11/09/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7178

AHU NUMBER: UH-2

AHU LOCATION: CEILING MOUNTED

REFRIG SYS # SRVNG AHU:

SERVES AREA: OFFICES/SHOP

% OF BLDG AREA HEATED: 50

AHU UNIT TYPE GAS FIRED UH

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 600

MIN %OA: 0

CFM-CLG: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG: EM

UNIT MODEL: UH-1100-1-FSP

SUPPLY FAN HP: 0.08

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 7

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	8	9	12	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 74

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
 CLIENT CONTRACT NO.: DACA 01-94-D-0033  
 LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7178

FILE: 7178.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	UH-1	LOCATION (Rm)	ONE ROOM BUILDING - IN SPACE				
AHU TYPE:	GAS FIRED UH	MFG.:	DAYTON FUEL-TRIMMER	MODEL:	3E368A		
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A				
COMMENTS:							
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:							
BURNER IN GOOD CONDITION							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
 CLIENT CONTRACT NO.: DACA 01-94-D-0033  
 LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7178

FILE: 7178.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	UH-2	LOCATION (Rm)	ONE ROOM BLDG. - IN SPACE					
AHU TYPE:	GAS FIRED UH	MFG.:	EM	MODEL:	UH-1100-1 FSP			
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								DPR-ACT = Damper Actuator
								RP-ACT = Replace Actuator
FILTER SECTION	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A					
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:								BURNER IN GOOD CONDITION
								RP-ACT = Replace Actuator
								RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

Nov-94

PREPARED BY:

AJN

CHECKED BY:

AJN

BLDG:

7178

FILE:

7178.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	WAC-3,4,5	LOCATION (Rm)	SOUTH WALL					
AHU TYPE:	WINDOW AC UNIT	MFG.:	FEDDER	MODEL:	N/A			
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS: TYPICAL OF 3. APPEAR TO BE IN POOR CONDITION								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/93  
PREPARED BY: AJN./CWW

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 7636 BLDG NAME: REGIMENTAL HQ BLDG  
ELECTRIC METER: ☐ N  
GAS METER: ☐ Y  
SUSPECT ACM: ☐ Y  
CONDITIONED SQFT: 9,850

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 9

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

### REMARKS:

Suspect ACM located on pipe fittings

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/93  
PREPARED BY: AJN./CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7636  
AHU NUMBER: AHU-1  
AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: 1  
SERVES AREA: ALL  
% OF BLDG AREA HEATED: 10

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 825  
MIN %OA: 100

CFM-CLG: 825  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: DUNHAM BUSH  
UNIT MODEL: HAH-12-C  
SUPPLY FAN HP: 0.5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: GE  
RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL:  
RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 9  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0  
COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0  
MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ Y  
RET AIR DMPR CONTROL: ☐ N  
EXH AIR DMPR CONTROL: ☐ N  
MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N  
IMPLEMENT DEMAND LIMIT CNTRLs? ☐ N  
TIME CLOCK: ☐ N  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/12/93

PREPARED BY: AJN./CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7636

AHU NUMBER: FC-1

AHU LOCATION:

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: ALL

% OF BLDG AREA HEATED: 80

AHU UNIT TYPE FAN COILS - 2 PIPE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 8,600

MIN %OA: 0

CFM-CLG: 8,600

MAX %OA: 0

**NAMEPLATE**

UNIT MFG: DUNHAM BUSH

UNIT MODEL: CR-4-FC-4-1

SUPPLY FAN HP: 1.7

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 9

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: OTHER

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLS? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/93  
PREPARED BY: AJN./CWW

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7636

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒ ☒ **BOILER** ☐ **CONVERTER**

BOILER TAG: BLR-1 CONVERTER TAG: \_\_\_\_\_

BOILER TYPE: HW (UP TO 250 DEG) CONVERTER TYPE: \_\_\_\_\_

FUEL TYPE: NAT. GAS CONV HT SOURCE: \_\_\_\_\_

☐ CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 10

BOILER MFG: AJAX

BLR CAP OUTPUT (BTUH): 360,000

UNIT MODEL: WG-450

BLR CAP INPUT (BTUH): 450,000

COMMENTS: \_\_\_\_\_

### SCHEDULE

DAYS SCHEDULE NO: 9 MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC

OPERATING SETPOINT: 135 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

RESET CONTROLS: ☒ Y

CONTROLS COMMENTS: \_\_\_\_\_

### HW PUMP

PUMP TAG: 1 PUMP HP: 0.5 PUMP MFG: B&G

PUMP SERVICE: HW PUMP PUMP MODEL: M80027K48

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/93  
PREPARED BY: AJN./CWW

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 7636 BLDG NAME: REGIMENTAL HQ BLDG  
PER RAD (SYSTEM TAG) NO: RAD-1 RAD SYS LOCATION: MER  
SOURCE OF HEATING: BLR-1 SERVES AREA: STAIRWAY, HALLWAYS  
RADIATION UNIT TYPE: HW % AREA HTG: 10

### RADIATION PUMP

PUMP TAG: 1 PUMP HP: 0.5 PUMP MFG: BELL & GOSSETT  
PUMP MODEL: M80027K48

### SCHEDULE

DAYS SCHEDULE NO: 4 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS: ELECTRIC

RADIATION CONTROL:

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: N

CONTROL COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/93  
PREPARED BY: AJN./CWW

### REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS

BLDG NUMBER: 7636 BLDG NAME: REGIMENTAL HQ BLDG  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: FC-1, AHU-1  
UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

### NAMEPLATE

CHILLER MFG:	TSI	TOWER MFG:	
CHILLER MODEL:	30A0CD30	# OF TOWER FANS:	4
CHILLER SERIAL NO:	5-88-13126	TOWER FAN V:	0
CHILLER V:	208	TOWER FAN AMPS:	0
CHILLER AMPS:	53	TOWER FAN HP:	1
CHILLER PH:	3		
CHILLER CAP (TONS):	29.8		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 9 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI: ☐ TEMP LITE HI: ☐ OTHER INDICATIONS:  
PRESS LITE LOW: ☐ TEMP LITE LOW: ☐  
PRESS GAUGES: ☐ TEMP GAUGES: ☐

CONTROLS COMMENTS:

### CW and CNW PUMPS

PUMP TAG: 1 PUMP HP: 5 PUMP MFG: CENTURY  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL: 6333484-01

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7636

FILE: 7636.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)					
AHU TYPE:	SZ	MFG.:	DUNHAM-BUSH	MODEL:			
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)				
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System				
DD - Dual Duct	UH - Unit Heater		IND - Induction System				
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK:	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS: N/A			
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	NONE	RP- ACT: RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 9 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN  
FILE: 7636.XLS

FILE: 7636.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7636

FILE: 7636.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	HW	MFG.: AJAX	MODEL: WG-450
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC: X	POWER:	OK: REPLACE:
COMMENTS:			
BLR PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
COMMENTS: 3-WAY VALVE ABOVE. SMALL PUMP LEAKING AND ACTUATOR CORRODED.			
HW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE: 3/4 HP
HW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:			
CV PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			





**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 8056

BLDG NAME: DET DAY ROOM

ELECTRIC METER: N

CONDITIONED SQFT: 2,100

GAS METER: N

SUSPECT ACM: N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 6

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	8
REQ STOP:	0	21	21	21	21	21	11

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8056

AHU NUMBER: AHU-1

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: CENTRAL PLANT

SERVES AREA: ALL

% OF BLDG AREA HEATED: 100

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,770

MIN %OA: 10

CFM-CLG: 2,770

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE

UNIT MODEL: L-6-SR-76E00435

SUPPLY FAN HP: 1.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: DAYTON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 2N934K

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 6

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	8
REQ STOP:	0	21	21	21	21	21	11

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
 CLIENT CONTRACT NO.: DACA 01-94-D-0033  
 LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 8056

FILE: 8056.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER				
AHU TYPE:	SZ	MFG.:	TRANE	MODEL:	L-6		
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)				
MZ - Multizone	VAV - Variable Air Vol.						
DD - Dual Duct	UH - Unit Heater		IND - Induction System				
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:	RA & OA INTERLOCKED. WHITE RUST ON GALVANIZED DUCTWORK. RUST ON AHU-CASING					DPR-ACT = Damper Actuator RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:						RP-ACT = Replace Actuator RP-BD = Replace Body	
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:	NEW PUMP						
PIPE INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:	ALL INSULATION NEEDS REPLACING, 1-1/2" @ 65'. NOTE: CONDENSATE PUMP DOES NOT WORK. CONDENSATE DRAINING ONTO ELECTRIC MOTOR. NEW STEAM PRV.						



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 7243 BLDG NAME: ADMIN & SUPPORT BLDG  
ELECTRIC METER: ☐ N ☐ Y  
GAS METER: ☐ N ☐ Y  
SUSPECT ACM: ☐ N ☐ Y  
CONDITIONED SQFT: 17,829

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 2

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRES STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
REQ START:	<u>0</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>0</u>
REQ STOP:	<u>0</u>	<u>17</u>	<u>17</u>	<u>17</u>	<u>17</u>	<u>17</u>	<u>0</u>

### REMARKS:

Suspect ACM on pipe fittings for chilled water; HW piping has fiberglass insulation. At least one person in each of 6 Admin Support areas 24hr a day. 15 Friedrich AC units "Power Miser". In original building each storage area has one exhaust fan for ventilation. Perimeter radiation throughout original building. Additional building: storage area has large FC ~ 1/2 HP Htg. only, no control VLV, fan control only.

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7243  
AHU NUMBER: EF-1  
AHU LOCATION: SUPPORT AREA  
REFRIG SYS # SRVNG AHU: N/A  
SERVES AREA: SUPORT AREA  
% OF BLDG AREA HEATED:

AHU UNIT TYPE EXH. FAN  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0  
MIN %OA: 100  
CFM-CLG: 14,975  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 3  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS: Supply Fan HP represents 5 Exhaust Fans, one for each area.

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2  
MONTH SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☐ ☐ ☐ ☐ ☒ ☒ ☒ ☒ ☒ ☐ ☐ ☐

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: OTHER  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: N  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLS? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS: Exhaust fans have gravity dampers

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7243  
AHU NUMBER: FC-1 AHU LOCATION: ABOVE CEILING  
REFRIG SYS # SRVNG AHU: CENTRAL PLANT SERVES AREA: ADDITION ADMIN AREA  
% OF BLDG AREA HEATED: 7

AHU UNIT TYPE FAN COILS - 2 PIPE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 1,800 CFM-CLG: 1,800  
MIN %OA: 0 MAX %OA: 0

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 1 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS: Total for 4 FC Units; Dual Temp.

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 70 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 70 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRL? N  
MAX OA DMPR CONTROL: N ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR: 3-way control valves in MER  
CONTROLS COMMENTS: Manual Occupied/ Unoccupied Switch

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7243  
AHU NUMBER: H&V-1 AHU LOCATION: SUPPORT AREA  
REFRIG SYS # SRVNG AHU: \_\_\_\_\_ SERVES AREA: SUPPORT AREA ADDITION  
% OF BLDG AREA HEATED: \_\_\_\_\_ 13

AHU UNIT TYPE HEATING AND VENTILATINGNUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,000  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: \_\_\_\_\_ UNIT MODEL: \_\_\_\_\_  
SUPPLY FAN HP: 0.33 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: \_\_\_\_\_ RET/EXH FAN MTR MFG: \_\_\_\_\_  
SUPPLY FAN MTR MODEL: \_\_\_\_\_ RET/EXH FAN MTR MODEL: \_\_\_\_\_  
COMMENTS: \_\_\_\_\_

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	<u>NONE</u>	<input type="checkbox"/>
HEATING COIL:	<u>HOT WATER</u>	<input type="checkbox"/>
REHEAT COIL:	<u>NONE</u>	<input type="checkbox"/>
HUMIDIFIER:	<u>NONE</u>	<input type="checkbox"/>
COOLING COIL:	<u>NONE</u>	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRES STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
REQ START:	<u>0</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>0</u>
REQ STOP:	<u>0</u>	<u>17</u>	<u>17</u>	<u>17</u>	<u>17</u>	<u>17</u>	<u>0</u>

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: \_\_\_\_\_  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ N  
RET AIR DMPR CONTROL: ☐ N  
EXH AIR DMPR CONTROL: ☐ N

MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N

IMPLEMENT DEMAND LIMIT CNTRLs? ☐ N  
TIME CLOCK: ☐ N  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7243

AHU NUMBER: UH-1

AHU LOCATION: ADDITION STORAGE ROOM

REFRIG SYS # SRVNG AHU:

SERVES AREA: STORAGE ROOM

% OF BLDG AREA HEATED: 2

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 220

CFM-CLG: 0

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 0.04

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLS? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7243

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒ ☒ **BOILER** ☐ **CONVERTER**

BOILER TAG: BLR-1 CONVERTER TAG: \_\_\_\_\_

BOILER TYPE: HW (UP TO 250 DEG) CONVERTER TYPE: \_\_\_\_\_

FUEL TYPE: NAT. GAS CONV HT SOURCE: \_\_\_\_\_

☐ CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: BURNHAM  
UNIT MODEL: 4FW-127-50-16

BLR CAP OUTPUT (BTUH): 850,000  
BLR CAP INPUT (BTUH): 1,063,000

COMMENTS: \_\_\_\_\_

### SCHEDULE

DAYS SCHEDULE NO: 2 MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC

OPERATING SETPOINT: 105 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

RESET CONTROLS: ☒ Y

CONTROLS COMMENTS: \_\_\_\_\_

### HW PUMP

PUMP TAG: 1 PUMP HP: 0.5

PUMP SERVICE: HW PUMP

PUMP MFG: ARMSTRONG

PUMP MODEL: 1QA56B17D77H

### HW PUMP

PUMP TAG: 2 PUMP HP: 0.5

PUMP SERVICE: HW PUMP

PUMP MFG: ARMSTRON

PUMP MODEL: 1QA56B17D77H

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**PERIMETER RADIATION SURVEY OBSERVATIONS**

BLDG NUMBER: 7243 BLDG NAME: ADMIN & SUPPORT BLDG  
PER RAD (SYSTEM TAG) NO: RAD-1 RAD SYS LOCATION: PERIMETER BLDG  
SOURCE OF HEATING: BLR-1 SERVES AREA: ORIG BLDG  
RADIATION UNIT TYPE: HW % AREA HTG: 78

**RADIATION PUMP**

PUMP TAG: 1 PUMP HP: 0.5 PUMP MFG: BELL & GOSSETT  
PUMP MODEL:

**SCHEDULE**

DAYS SCHEDULE NO: 2 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF RAD. CONTROLS:

RADIATION CONTROL: NONE

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: N

CONTROL COMMENTS: ELECTRIC CONTROL ON PUMPS

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS**

BLDG NUMBER: 7243

BLDG NAME: ADMIN &amp; SUPPORT BLDG

REF. UNIT NUMBER/TAG: CWP-1

LOCATION (MER#): MER

AHU'S SERVED: FC-1

UNIT TYPE CENTRAL PLANT

**NAMEPLATE**

CHILLER MFG:		TOWER MFG:	
CHILLER MODEL:		# OF TOWER FANS:	0
CHILLER SERIAL NO:		TOWER FAN V:	0
CHILLER V:	0	TOWER FAN AMPS:	0
CHILLER AMPS:	0	TOWER FAN HP:	0
CHILLER PH:	0		
CHILLER CAP (TONS):	0		

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 2

MONTHS SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐TEMP LITE HI: ☐

OTHER INDICATIONS:

PRESS LITE LOW: ☐TEMP LITE LOW: ☐PRESS GAUGES: ☐TEMP GAUGES: ☐

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 0.5

PUMP MFG: ARMSTRONG

PUMP SERVICE: CW PUMP (Chilled Water)

PUMP MODEL: 1QA56B17D77H

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7243

FILE: 7243.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	WAC-1	LOCATION (Rm)	ADMIN. OFFICES - WINDOW OPENINGS					
AHU TYPE:	WINDOW AC UNIT	MFG.:	FRIEDRICH	MODEL:				
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS: TYPICAL OF 15 AC UNITS; 3 WAC'S PER ADMIN/SUPPORT UNIT.								DPR-ACT = Damper Actuator
WAC'S ARE FAIR TO POOR CONDITION.								RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:			COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:			COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:			COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:			COMMENTS: N/A			
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:								RP-ACT = Replace Actuator
								RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7243

FILE: 7243.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	ABOVE CEILING PANEL IN ADDITION					
AHU TYPE:	FC 2P	MFG.:				MODEL:		
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
COMMENTS:	THESE ARE IN NEW ADDITION ONLY. WINDOW AC UNITS IN							DPR-ACT = Damper Actuator
	5 COMPANY AREAS.							RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:	DIRTY FILTERS							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	(NONE)	RP-ACT:	RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT:	RP-BD:
COMMENTS:	DUAL TEMP. CONTROL							RP-ACT = Replace Actuator
								RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7243

FILE: 7243.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	EF-1	LOCATION (Rm)	SUPPORT AREA					
AHU TYPE:	EXH. FAN	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:		GRAVITY DAMPERS - OK				DPR-ACT = Damper Actuator		
						RP-ACT = Replace Actuator		
FILTER SECTION	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A		
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:		N/A		
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:						RP-ACT = Replace Actuator		
						RP-BD = Replace Body		
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 11 Nov-94  
PREPARED BY: AJN  
CHECKED BY: AJN  
FILE: 7243 XLS

FILE: 7243.XLS

[illegible]



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN  
FILE: 7243.XLS

BLDG: 7243

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	HW	MFG.: BURNHAM	MODEL: 4FW-127-50-LB
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X
REPLACE:			
COMMENTS:	BOILER LOOKS GOOD. DUAL TEMP. SYSTEM. ELECTRIC CONTROLS		
BLR PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING: X ESTIMATED QUANTITY: 25' @ 1-1/2"
COMMENTS:	CORROSION ON PIPE		
HW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:	SEALS HAVE BEEN BAD IN THE PAST. PUMPS UN-INSULATED. SOME CORROSION ON PIPES CONNECTED TO PUMPS		
CV PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: AJN/CWW

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 7432

BLDG NAME: ADMIN & SUPPORT BLDG

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 13,500

GAS METER: ☐ Y

SUSPECT ACM: ☐ N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 3

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	7	7	7	7	7	0
PRES STOP:	0	17	17	17	17	17	0
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7432

AHU NUMBER: FC-1

AHU LOCATION: ABOVE CEILING

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: ADMIN AREA

% OF BLDG AREA HEATED: 35

AHU UNIT TYPE FAN COILS - 2 PIPE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 12,000

MIN %OA: 20

CFM-CLG: 12,000

MAX %OA: 20

**NAMEPLATE**

UNIT MFG: TRANE

UNIT MODEL: UNITRANE

SUPPLY FAN HP: 2

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS: Total of 20 FCs in Admin. Area

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 3

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	7	7	7	7	7	0
PRES STOP:	0	17	17	17	17	17	0
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: DUAL SETPOINT

PRESENT TEMP WINTR OCC: 68

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM OCC: 73

OTHER SETPOINT DESCRIP:

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLs? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7432  
AHU NUMBER: HV-1 AHU LOCATION: SUPPLY AREA  
REFRIG SYS # SRVNG AHU: SERVES AREA: SUPPLY AREA 1  
% OF BLDG AREA HEATED: 13

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,400  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 1 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: 0  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLs? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7432

AHU NUMBER: HV-2

AHU LOCATION: SUPPLY AREA

REFRIG SYS # SRVNG AHU:

SERVES AREA: SUPPLY AREA 2

% OF BLDG AREA HEATED: 13

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,400

CFM-CLG: 0

MIN %OA: 100

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 1

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? Y

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7432

AHU NUMBER: HV-3

AHU LOCATION: SUPPLY AREA

REFRIG SYS # SRVNG AHU:

SERVES AREA: SUPPLY AREA 3

% OF BLDG AREA HEATED: 13

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,400

CFM-CLG: 0

MIN %OA: 100

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 1

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLS? Y

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/11/94

LOCATION: FT. RILEY, KS

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7432

AHU NUMBER: HV-4

AHU LOCATION: SUPPLY AREA

REFRIG SYS # SRVNG AHU:

SERVES AREA: SUPPLY AREA 4

% OF BLDG AREA HEATED: 13

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,400

CFM-CLG: 0

MIN %OA: 100

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 1

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM OCC: 0

OTHER SETPOINT DESCRIP:

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? Y

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7432  
AHU NUMBER: HV-5  
AHU LOCATION: SUPPLY AREA  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: SUPPLY AREA 5  
% OF BLDG AREA HEATED: 13

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,400  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 1  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: N  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? Y  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7432

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒ ☒ **BOILER** ☐ **CONVERTER**

BOILER TAG: BLR-1 CONVERTER TAG: \_\_\_\_\_

BOILER TYPE: HW (UP TO 250 DEG) CONVERTER TYPE: \_\_\_\_\_

FUEL TYPE: NAT. GAS CONV HT SOURCE: \_\_\_\_\_

☐ CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: BURNHAM  
UNIT MODEL: 4FW-107-40-1B

BLR CAP OUTPUT (BTUH): 895,000  
BLR CAP INPUT (BTUH): 1,119,000

COMMENTS: \_\_\_\_\_

#### SCHEDULE

DAYS SCHEDULE NO: 2 MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC RESET CONTROLS: N

OPERATING SETPOINT: 160 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

#### HW PUMP

PUMP TAG: 1 PUMP HP: 5 PUMP MFG: BALDOR  
PUMP SERVICE: HW PUMP PUMP MODEL: M3613T

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 7432

BLDG NAME: ADMIN &amp; SUPPORT BLDG

REF. UNIT NUMBER/TAG: CH-1

LOCATION (MER#): OUTSIDE

AHU'S SERVED: FC-1

UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

**NAMEPLATE**

CHILLER MFG: TRANE  
CHILLER MODEL: CGABC206AF013  
CHILLER SERIAL NO: J87A80095  
CHILLER V: 200  
CHILLER AMPS: 98  
CHILLER PH: 3  
CHILLER CAP (TONS): 20

TOWER MFG:  
# OF TOWER FANS: 2  
TOWER FAN V: 0  
TOWER FAN AMPS: 0  
TOWER FAN HP: 0.5

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 2

MONTHS SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐TEMP LITE HI: ☐

OTHER INDICATIONS:

PRESS LITE LOW: ☐TEMP LITE LOW: ☐PRESS GAUGES: ☐TEMP GAUGES: ☐

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 3

PUMP MFG: ARMSTRONG

PUMP SERVICE: CW PUMP (Chilled Water)

PUMP MODEL:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7432

FILE: 7432.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	H&V-1	LOCATION (Rm)	SUPPLY AREA				
AHU TYPE:	H&V	MFG.:	MODEL:				
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS: OA & RA INTERLINKED; TYPICAL OF 5							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A				
COMMENTS:							
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: X RP-BD: X
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS: LEAKING 3-WAY VALVE							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7432

FILE: 7432.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	ABOVE CEILING					
AHU TYPE:	FC 2P	MFG.:	TRANE UNITRANE				MODEL:	
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	TYPICAL OF 20						DPR-ACT = Damper Actuator	
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS: N/A				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:	CONTROL VALVE MODULATES WHEN T-STAT CALLES FOR HEATING						RP-ACT = Replace Actuator	
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 11 Nov-94  
PREPARED BY: AJN  
CHECKED BY: AJN  
FILE: 7432.XLS

FILE: 7432.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7432

FILE: 7432.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER	
BOILER TYPE:	HW	MFG.:	BURNHAM	MODEL: 4FW-107-40-LB
CONVERTER TYPE:		MFG.:		MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
BLR PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS: MUCH CORROSION ON PIPES AT CONNECTIONS TO PUMP MOTOR AND PUMP NOT BOLTED TO PAD.				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 25' @2'
COMMENTS:				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS: HOT WATER PIPE LEAKING AT ELBOW ABOVE LIGHT FIXTURE.				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				





## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 7602 BLDG NAME: ADMIN & SUPPORT BLDG

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 13,520

GAS METER: ☐ N

SUSPECT ACM: ☐ Y

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 2

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

### REMARKS:

Locations of Suspect ACM: Pipe fittings, boiler

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7602  
AHU NUMBER: AHU-1 AHU LOCATION: STORAGE AREA  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: OFFICE AREA 1  
% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0 CFM-CLG: 940  
MIN %OA: 20 MAX %OA: 20

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 0.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: MARATHON RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: GC1921146 RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2 MONTH SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☐ ☐ ☐ ☐ ☒ ☒ ☒ ☒ ☒ ☐ ☐ ☐

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7602  
AHU NUMBER: AHU-2  
AHU LOCATION: STORAGE AREA  
REFRIG SYS # SRVNG AHU: CH-1  
SERVES AREA: OFFICE AREA 2  
% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0  
MIN %OA: 20  
CFM-CLG: 940  
MAX %OA: 20

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 0.5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: MARATHON  
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL: GC1921146  
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2  
MONTH SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ N  
RET AIR DMPR CONTROL: ☐ N  
EXH AIR DMPR CONTROL: ☐ N  
MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N  
IMPLEMENT DEMAND LIMIT CNTRLs? ☐ N  
TIME CLOCK: ☐ N  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7602  
AHU NUMBER: AHU-3 AHU LOCATION: STORAGE AREA  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: OFFICE AREA 3  
% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0 CFM-CLG: 940  
MIN %OA: 20 MAX %OA: 20

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: MARATHON RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: GC1921146 RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2 MONTH SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIPT: 0  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRL? N  
MAX OA DMPR CONTROL: N ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7602

AHU NUMBER: AHU-4

AHU LOCATION: STORAGE AREA

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: OFFICE AREA 4

% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0

CFM-CLG: 940

MIN %OA: 20

MAX %OA: 20

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 0.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: GC1021146

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2

MONTH SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7602  
AHU NUMBER: AHU-5 AHU LOCATION: STORAGE AREA  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: OFFICE AREA 5  
% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0 CFM-CLG: 940  
MIN %OA: 20 MAX %OA: 20

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 0.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: MARATHON RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: GC1921146 RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2 MONTH SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLs? N  
MAX OA DMPR CONTROL: N ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7602

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: SPACE HEAT



##### BOILER

BOILER TAG: BLR-1  
BOILER TYPE: HW (UP TO 250 DEG)  
FUEL TYPE: NAT. GAS



##### CONVERTER

CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_



CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 100

BOILER MFG: OSAGE

UNIT MODEL: 40-5-201

BLR CAP OUTPUT (BTUH): 800,000

BLR CAP INPUT (BTUH): 1,000,000

COMMENTS: \_\_\_\_\_

#### SCHEDULE

DAYS SCHEDULE NO: 2

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 7602	BLDG NAME: ADMIN & SUPPORT BLDG
PER RAD (SYSTEM TAG) NO: RAD-1	RAD SYS LOCATION: PERIMETER OF BLDG.
SOURCE OF HEATING: BLR-1	SERVES AREA: ALL
RADIATION UNIT TYPE: HW	% AREA HTG: 100

### RADIATION PUMP

PUMP TAG: 1	PUMP HP: 0.75	PUMP MFG: CENTURY
		PUMP MODEL: SC-18262-KCA-6

### SCHEDULE

DAYS SCHEDULE NO: 2 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS:

RADIATION CONTROL: NONE

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: ☒ N

CONTROL COMMENTS: 3-WAY PNEUMATIC CONTROL VALVE LOCATED IN MER



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 7602 BLDG NAME: ADMIN & SUPPORT BLDG  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: AHU-1, 2, 3, 4, & 5  
UNIT TYPE: RECIPROCATING WITH AIR COOLED CONDENSING UNIT

### NAMEPLATE

CHILLER MFG:	TSI	TOWER MFG:	LARKIN
CHILLER MODEL:	SC2C515	# OF TOWER FANS:	2
CHILLER SERIAL NO:	9129-1	TOWER FAN V:	208
CHILLER V:	230	TOWER FAN AMPS:	9.2
CHILLER AMPS:	62	TOWER FAN HP:	0.5
CHILLER PH:	3		
CHILLER CAP (TONS):	15		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 2 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐ N  
PRESS LITE LOW: ☐ N  
PRESS GAUGES: ☐ N

TEMP LITE HI: ☐ N  
TEMP LITE LOW: ☐ N  
TEMP GAUGES: ☐ N

OTHER INDICATIONS:

CONTROLS COMMENTS:

### CW and CNW PUMPS

PUMP TAG:	1	PUMP HP:	1	PUMP MFG:	CENTURY
PUMP SERVICE:	CW PUMP (Chilled Water)			PUMP MODEL:	SC-182-KMA

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7602

FILE: 7602.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	SUPPLY					
AHU TYPE:	SZ	MFG.:	-			MODEL:	-	
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	TYPICAL OF 5						DPR-ACT = Damper Actuator	
							RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:							RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

FILE: 7602.XLS

BLDG: 7602

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

[illegible]

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 11 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN

FILE: 7602.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7602

FILE: 7602.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER	
BOILER TYPE:	HW	MFG.: OSAGE	MODEL: 40-5-201	
CONVERTER TYPE:		MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter		
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A: X	OK: X	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK: X	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS: ASBESTOS ON FLUE & ELBOWS				
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE: 3/4 HP CENTURY
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS: PUMP UNINSULATED				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 7608

BLDG NAME: ADMIN & SUPPORT BLDG

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 13,520

GAS METER: ☐ N

SUSPECT ACM: ☐ Y

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 4

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

### REMARKS:

Suspect ACM is located on pipe fittings and boiler.

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7608  
AHU NUMBER: AHU-1 AHU LOCATION: STORAGE ROOM  
REFRIG SYS # SRVNG AHU: SERVES AREA: OFFICE AREA 1  
% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0 CFM-CLG: 940  
MIN %OA: 20 MAX %OA: 20

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 0.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: GENERAL ELECT RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 5K42HG2571 RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 4 MONTH SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☐ ☐ ☐ ☐ ☒ ☒ ☒ ☒ ☒ ☐ ☐ ☐

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: 0  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRL? N  
MAX OA DMPR CONTROL: N ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR: 0  
CONTROLS COMMENTS: 0



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7608

AHU NUMBER: AHU-2

AHU LOCATION: STORAGE ROOM

REFRIG SYS # SRVNG AHU:

SERVES AREA: OFFICE AREA 2

% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0

MIN %OA: 20

CFM-CLG: 940

MAX %OA: 20

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 0.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: GENERAL ELECT

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 5K42HG2571

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 4

MONTH SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

OTHER SETPOINT DESCRIP:

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLS? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7608

AHU NUMBER: AHU-3

AHU LOCATION: STORAGE ROOM

REFRIG SYS # SRVNG AHU:

SERVES AREA: OFFICE AREA 3

% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0

CFM-CLG: 940

MIN %OA: 20

MAX %OA: 20

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 0.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: GENERAL ELECT

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 5K42HG2571

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 4

MONTH SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLs? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7608  
AHU NUMBER: AHU-4 AHU LOCATION: STORAGE ROOM  
REFRIG SYS # SRVNG AHU: SERVES AREA: OFFICE AREA 4  
% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0 CFM-CLG: 940  
MIN %OA: 20 MAX %OA: 20

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 0.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: GENERAL ELECT RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 5K42HG2571 RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 4 MONTH SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☐ ☐ ☐ ☐ ☒ ☒ ☒ ☒ ☒ ☐ ☐ ☐

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7608

AHU NUMBER: AHU-5

AHU LOCATION: STORAGE ROOM

REFRIG SYS # SRVNG AHU:

SERVES AREA: OFFICE AREA 5

% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0

CFM-CLG: 940

MIN %OA: 20

MAX %OA: 20

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 0.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: GENERAL ELECT

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 5K42HG2571

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 4

MONTH SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLS? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7608

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: PERIMETER RADIATION



BOILER

BOILER TAG: BLR-1

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS

☐ CONVERTER

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 100

BOILER MFG: OSAGE

UNIT MODEL: 40-5-201

BLR CAP OUTPUT (BTUH): 800,000

BLR CAP INPUT (BTUH): 1,000,000

COMMENTS:

#### SCHEDULE

DAYS SCHEDULE NO: 4

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 7608	BLDG NAME: ADMIN & SUPPORT BLDG
PER RAD (SYSTEM TAG) NO: RAD-1	RAD SYS LOCATION: PERIMETER OF BLDG
SOURCE OF HEATING: BLR-1	SERVES AREA: ALL
RADIATION UNIT TYPE: HW	% AREA HTG: 100

### RADIATION PUMP

PUMP TAG: 1	PUMP HP: 0.5	PUMP MFG: RELIANCE
		PUMP MODEL: Y214669A5

### SCHEDULE

DAYS SCHEDULE NO: 4 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS:

RADIATION CONTROL: NONE

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: ☒ N

CONTROL COMMENTS: 3-WAY PNEUMATIC CONTROL VALVE LOCATED IN MER

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 7608 BLDG NAME: ADMIN & SUPPORT BLDG  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: AHU-1, 2, 3, 4, & 5  
UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

**NAMEPLATE**

CHILLER MFG:	TSI	TOWER MFG:	LARKIN
CHILLER MODEL:	SC2CS15	# OF TOWER FANS:	2
CHILLER SERIAL NO:		TOWER FAN V:	208
CHILLER V:	0	TOWER FAN AMPS:	9.2
CHILLER AMPS:	0	TOWER FAN HP:	0.5
CHILLER PH:	0		
CHILLER CAP (TONS):	15		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 4 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI: ☐ TEMP LITE HI: ☐ OTHER INDICATIONS:  
PRESS LITE LOW: ☐ TEMP LITE LOW: ☐  
PRESS GAUGES: ☐ TEMP GAUGES: ☐

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 1 PUMP MFG: CENTURY  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL: SC-182-KMA

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7608

FILE: 7608.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	STORAGE AREA					
AHU TYPE:	SZ	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	PERIMETER RADIATION IN STORAGE AREA AND OFFICE AREA.						DPR-ACT = Damper Actuator	
	5 AHU'S SERVE OFFICE AREAS - COOLING ONLY.						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A		
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:		N/A		
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:							RP-ACT = Replace Actuator	
						RP-BD = Replace Body		
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								



**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

11 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

FILE: 7608.XLS

7608.XLS

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7608

FILE: 7608.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	HW	MFG.: OSAGE	MODEL: 40-5-201
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X
REPLACE:			
COMMENTS:			
BLR PUMP MOTOR	N/A:	OK:	REPLACE:
BLR PUMP SEALS	N/A:	OK:	REPLACE:
COMMENTS: PUMP UNINSULATED AND PIPES TO PUMP ARE RUSTY			
BLR INSULATION	N/A:	OK: X	MISSING:
PIPE INSULATION	N/A:	OK: X	MISSING:
COMMENTS: BOILER HAS SOME RUST ON IT. ASBESTOS ON FLUE.			
HW PUMP MOTOR	N/A:	OK: X	REPLACE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:
HW PUMP SEALS	N/A:	OK:	REPLACE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:
HW PUMP SEALS	N/A:	OK:	REPLACE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:
HW PUMP SEALS	N/A:	OK:	REPLACE:
COMMENTS:			
CV PUMP MOTOR	N/A: X	OK:	REPLACE:
CV PUMP SEALS	N/A:	OK:	REPLACE:
COMMENTS:			
CV INSULATION	N/A: X	OK:	MISSING:
CV PIPE INSUL.	N/A:	OK:	MISSING:
COMMENTS:			

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 7652

BLDG NAME: ADMIN &amp; SUPPORT BLDG

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 13,520

GAS METER: ☐ NSUSPECT ACM: ☐ Y**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 5

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

**REMARKS:**

Suspect ACM is located on pipe fittings and boiler.

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7652  
AHU NUMBER: AHU-1 AHU LOCATION: STORAGE ROOM  
REFRIG SYS # SRVNG AHU: SERVES AREA: OFFICE AREA 1  
% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0 CFM-CLG: 940  
MIN %OA: 20 MAX %OA: 20

**NAMEPLATE**

UNIT MFG: DUNHAM BUSH UNIT MODEL: VAH-22  
SUPPLY FAN HP: 0.75 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: MARATHON RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 6C92M47 RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 5 MONTH SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLs? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/12/94

PREPARED BY: AJN/CWW

## AIR HANDLING UNIT SURVEY OBSERVATIONS

BUILDING NUMBER: 7652

AHU NUMBER: AHU-2

AHU LOCATION: STORAGE ROOM

REFRIG SYS # SRVNG AHU:

SERVES AREA: OFFICE AREA 2

% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0

CFM-CLG: 940

MIN %OA: 20

MAX %OA: 20

## NAMEPLATE

UNIT MFG: DUNHAM BUSH

UNIT MODEL: VAH-22

SUPPLY FAN HP: 0.75

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 6C'92M47

RET/EXH FAN MTR MODEL:

COMMENTS:

## COILS

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

## SCHEDULE

DAY SCHEDULE NO: 5

MONTH SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7652

AHU NUMBER: AHU-3

AHU LOCATION: STORAGE ROOM

REFRIG SYS # SRVNG AHU:

SERVES AREA: OFFICE AREA 3

% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0

CFM-CLG: 940

MIN %OA: 20

MAX %OA: 20

**NAMEPLATE**

UNIT MFG: DUNHAM BUSH

UNIT MODEL: VAH-22

SUPPLY FAN HP: 0.75

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 6C'92M47

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 5

MONTH SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE:

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLS? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7652  
AHU NUMBER: AHU-4 AHU LOCATION: STORAGE ROOM  
REFRIG SYS # SRVNG AHU: SERVES AREA: OFFICE AREA 4  
% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0  
MIN %OA: 20

CFM-CLG: 940  
MAX %OA: 20

**NAMEPLATE**

UNIT MFG: DUNHAM BUSH UNIT MODEL: VAH-22  
SUPPLY FAN HP: 0.75 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: MARATHON RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 6C92M47 RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 5 MONTH SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLS? N  
MAX OA DMPR CONTROL: N ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/12/94

LOCATION: FT. RILEY, KS

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7652

AHU NUMBER: AHU-5

AHU LOCATION: STORAGE ROOM

REFRIG SYS # SRVNG AHU:

SERVES AREA: OFFICE AREA

% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0

CFM-CLG: 940

MIN %OA: 20

MAX %OA: 20

**NAMEPLATE**

UNIT MFG: DUNHAM BUSH

UNIT MODEL: VAH-22

SUPPLY FAN HP: 0.75

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 6C92M47

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 5

MONTH SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7652

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒

☒ BOILER

BOILER TAG: BLR-1

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS

☐ CONVERTER

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:

☐

CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 100

BOILER MFG: OSAGE

UNIT MODEL: 40-5-201

BLR CAP OUTPUT (BTUH): 800,000

BLR CAP INPUT (BTUH): 1,000,000

COMMENTS:

#### SCHEDULE

DAYS SCHEDULE NO: 5

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: 130 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

**PERIMETER RADIATION SURVEY OBSERVATIONS**

BLDG NUMBER: 7652 BLDG NAME: ADMIN & SUPPORT BLDG  
PER RAD (SYSTEM TAG) NO: RAD-1 RAD SYS LOCATION: PERIMETER OF BLDG  
SOURCE OF HEATING: BLR-1 SERVES AREA: ALL  
RADIATION UNIT TYPE: HW % AREA HTG: 100

**RADIATION PUMP**

PUMP TAG: 1 PUMP HP: 0.75 PUMP MFG: MAGNETEK  
PUMP MODEL: 8-165775-01

**SCHEDULE**

DAYS SCHEDULE NO: 5 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF RAD. CONTROLS:

RADIATION CONTROL: NONE

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: ☒ N

CONTROL COMMENTS: 3-WAY PNEUMATIC CONTROL VALVE LOCATED IN MER

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 7652 BLDG NAME: ADMIN & SUPPORT BLDG  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): MER  
AHU'S SERVED: AHU-1, 2, 3, 4, & 5  
UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

### NAMEPLATE

CHILLER MFG:	TSI	TOWER MFG:	TSI
CHILLER MODEL:	SC2CS15	# OF TOWER FANS:	2
CHILLER SERIAL NO:	9129-7	TOWER FAN V:	230
CHILLER V:	230	TOWER FAN AMPS:	2.2
CHILLER AMPS:	62	TOWER FAN HP:	0.5
CHILLER PH:	3		
CHILLER CAP (TONS):	15		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 5 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☐ ☐ ☐ ☐ ☒ ☒ ☒ ☒ ☒ ☐ ☐ ☐

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0  
CWR SETPOINT: 0

CNWS SETPOINT: 0  
CNWR SETPOINT: 0

PRESS LITE HI: ☐ N  
PRESS LITE LOW: ☐ N  
PRESS GAUGES: ☐ Y

TEMP LITE HI: ☐ N  
TEMP LITE LOW: ☐ N  
TEMP GAUGES: ☐ N

OTHER INDICATIONS:

CONTROLS COMMENTS:

### CW and CNW PUMPS

PUMP TAG: 1 PUMP HP: 1.5 PUMP MFG: CENTURY  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
 CLIENT CONTRACT NO.: DACA 01-94-D-0033  
 LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7652

FILE: 7652.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	STORAGE AREA					
AHU TYPE:		MFG.:	DUNHAM BUSH	MODEL:	VAH-22			
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS: TYPICAL FOR 5 AHU'S, VERY OLD AND RUN DOWN								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS: DAMAGED - REPLACE ~ 30'-1-1/2"								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

FILE: 7652.XLS

BLDG: 7652

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7652

FILE: 7652.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER	
BOILER TYPE:	HW	MFG.:	MODEL:	
CONVERTER TYPE:		MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor		
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X	REPLACE:
COMMENTS:	PERIMETER RADIATION WITH MANUAL CONTROL VALVES AND MANUAL SHUT-OFF VALVES. RUSTED INTO POSITION. (ASBESTOS) CONTROL VALVES OK.			
BLR PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
BLR PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:	NOT BOLTED TO PAD			
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 7658 BLDG NAME: ADMIN & SUPPORT BLDG  
ELECTRIC METER: ☐ N CONDITIONED SQFT: 13,520  
GAS METER: ☐ N  
SUSPECT ACM: ☐ Y

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 5

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

### REMARKS:

Building Contact: Sgt. Thornton @ Ext. 5213. suspect ACM is located on pipe fittings and boiler.

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/12/94

LOCATION: FT. RILEY, KS

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7658

AHU NUMBER: AHU-1

AHU LOCATION: STORAGE ROOM

REFRIG SYS # SRVNG AHU:

SERVES AREA: OFFICE AREA 1

% OF BLDG AREA HEATED: 37

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0

CFM-CLG: 940

MIN %OA: 20

MAX %OA: 20

**NAMEPLATE**

UNIT MFG: DUNHAM BUSH

UNIT MODEL: VAH-22

SUPPLY FAN HP: 0.75

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 6C192M47

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 5

MONTH SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

OTHER SETPOINT DESCRIP:

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLS? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS: Thermostat modulates control valve.



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7658  
AHU NUMBER: AHU-2  
AHU LOCATION: STORAGE ROOM  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: OFFICE AREA 2  
% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0  
MIN %OA: 20  
CFM-CLG: 940  
MAX %OA: 20

**NAMEPLATE**

UNIT MFG: DUNHAM BUSH  
UNIT MODEL: BAH-22  
SUPPLY FAN HP: 0.75  
RET/EXH FAN HP:   
SUPPLY FAN MTR MFG: MARATHON  
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL: 6C192M47  
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 5  
MONTH SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:

☐ ☐ ☐ ☐ ☒ ☒ ☒ ☒ ☒ ☐ ☐ ☐

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC:   
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: N  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLS? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS: Thermostat modulates control valve.

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/12/94

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7658

AHU NUMBER: AHU-3

AHU LOCATION: STORAGE ROOM

REFRIG SYS # SRVNG AHU:

SERVES AREA: OFFICE AREA 3

% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG:

MIN %OA: 20

CFM-CLG: 940

MAX %OA: 20

**NAMEPLATE**

UNIT MFG: DUNHAM BUSH

UNIT MODEL: VAH-22

SUPPLY FAN HP: 0.75

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 6C192M47

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 5

MONTH SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRL? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS: Thermostat modulates control valve.

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7658

AHU NUMBER: AHU-4

AHU LOCATION: STORAGE ROOM

REFRIG SYS # SRVNG AHU:

SERVES AREA: OFFICE AREA 4

% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0

CFM-CLG: 940

MIN %OA: 20

MAX %OA: 20

**NAMEPLATE**

UNIT MFG: DUNHAM BUSH

UNIT MODEL: VAH-22

SUPPLY FAN HP: 0.75

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 6C192M47

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 5

MONTH SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLS? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

Thermostat modulates control valve.

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/12/94

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7658

AHU NUMBER: AHU-5

AHU LOCATION: STORAGE ROOM

REFRIG SYS # SRVNG AHU:

SERVES AREA: OFFICE AREA 5

% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0

CFM-CLG: 940

MIN %OA: 20

MAX %OA: 20

**NAMEPLATE**

UNIT MFG: DUNHAM BUSH

UNIT MODEL: VAH-22

SUPPLY FAN HP: 0.75

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 6C192M47

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 5

MONTH SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM OCC: 0

OTHER SETPOINT DESCRIP:

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRL? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS: Thermostat modulates control valve.

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7658

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: ALL



##### BOILER

BOILER TAG: BLR-1  
BOILER TYPE: HW (UP TO 250 DEG)  
FUEL TYPE: NAT. GAS

##### CONVERTER

CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_



CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 100

BOILER MFG: OSAGE

UNIT MODEL: 40-5-201

BLR CAP OUTPUT (BTUH): 800,000

BLR CAP INPUT (BTUH): 1,000,000

COMMENTS: \_\_\_\_\_

#### SCHEDULE

DAYS SCHEDULE NO: 5

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: 130 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 7658 BLDG NAME: ADMIN & SUPPORT BLDG  
PER RAD (SYSTEM TAG) NO: RAD-1 RAD SYS LOCATION: PERMIETER OF BLDG.  
SOURCE OF HEATING: BLR-1 SERVES AREA: ALL  
RADIATION UNIT TYPE: HW % AREA HTG: 100

### RADIATION PUMP

PUMP TAG: 1 PUMP HP: 0.75 PUMP MFG: RELIANCE  
PUMP MODEL: P14G3161M-FT

### SCHEDULE

DAYS SCHEDULE NO: 5 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS:

RADIATION CONTROL: NONE

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: ☒ N

CONTROL COMMENTS: 3-WAY PNEUMATIC CONTROL VALVE LOCATED IN MER

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 7658 BLDG NAME: ADMIN & SUPPORT BLDG  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): MER  
AHU'S SERVED: AHU-1, 2, 3, 4, & 5  
UNIT TYPE: RECIPROCATING WITH AIR COOLED CONDENSING UNIT

### NAMEPLATE

CHILLER MFG:	COPELAMETIC	TOWER MFG:	AIRCON MCQUAY
CHILLER MODEL:	9RS1-1500-THC	# OF TOWER FANS:	3
CHILLER SERIAL NO:	CTC821-01206	TOWER FAN V:	0
CHILLER V:	230	TOWER FAN AMPS:	0
CHILLER AMPS:	62	TOWER FAN HP:	0.75
CHILLER PH:	3		
CHILLER CAP (TONS):	15		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 5 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☐ ☐ ☐ ☐ ☒ ☒ ☒ ☒ ☒ ☐ ☐ ☐

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 45  
CWR SETPOINT: 0

CNWS SETPOINT: 0  
CNWR SETPOINT: 0

PRESS LITE HI: ☐ N  
PRESS LITE LOW: ☐ N  
PRESS GAUGES: ☐ Y

TEMP LITE HI: ☐ N  
TEMP LITE LOW: ☐ N  
TEMP GAUGES: ☐ N

OTHER INDICATIONS:

CONTROLS COMMENTS:

### CW and CNW PUMPS

PUMP TAG: 1 PUMP HP: 1.5 PUMP MFG: CENTURY  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL: SC-184-KMH-6-302053

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7658

FILE: 7658.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	STORAGE						
AHU TYPE:	SZ	MFG.:	DUNHAM BUSH			MODEL:	VAH-22		
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater		IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:		
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:		
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:		
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:		
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:		
COMMENTS:		AHU IS OLD, DIRTY. TYPICAL OF 5					DPR-ACT = Damper Actuator		
							RP-ACT = Replace Actuator		
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:					
COMMENTS:									
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:						
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:		N/A			
COMMENTS:									
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: *	RP- ACT:	RP-BD:	
HEATING COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:	
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:	
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:	
COMMENTS:		*LOOSE PNEUMATIC LINE TO CW CONTROL VALVE					RP-ACT = Replace Actuator		
							RP-BD = Replace Body		
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:					
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:					
COMMENTS:									
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:		3'-1-1/4"			
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:					
COMMENTS:									



PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 8 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN  
FILE: 7658.XLS

FILE: 7658.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

8 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

BLDG:

7658

FILE:

7658.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	HW	MFG.: OSAGE	MODEL: 40-5-201
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: REPLACE:
COMMENTS:			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
COMMENTS:			
HW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 8021 BLDG NAME: ADMIN & SUPPORT BLDG  
ELECTRIC METER: N CONDITIONED SQFT: 23,676  
GAS METER: N  
SUSPECT ACM: N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 9

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRES STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
REQ START:	<u>0</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>0</u>
REQ STOP:	<u>0</u>	<u>17</u>	<u>17</u>	<u>17</u>	<u>17</u>	<u>17</u>	<u>0</u>

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8021  
AHU NUMBER: FC-1 AHU LOCATION: ABOVE CEILING  
REFRIG SYS # SRVNG AHU: CENTRAL PLANT SERVES AREA: ADMINISTRATIVE OFFICES  
% OF BLDG AREA HEATED: 37

AHU UNIT TYPE FAN COILS - 2 PIPE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 18,000 CFM-CLG: 18,000  
MIN %OA: 20 MAX %OA: 20

**NAMEPLATE**

UNIT MFG: \_\_\_\_\_ UNIT MODEL: \_\_\_\_\_  
SUPPLY FAN HP: 1 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: \_\_\_\_\_ RET/EXH FAN MTR MFG: \_\_\_\_\_  
SUPPLY FAN MTR MODEL: \_\_\_\_\_ RET/EXH FAN MTR MODEL: \_\_\_\_\_  
COMMENTS: \_\_\_\_\_

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	<u>NONE</u>	<input type="checkbox"/>
HEATING COIL:	<u>HOT WATER</u>	<input type="checkbox"/>
REHEAT COIL:	<u>NONE</u>	<input type="checkbox"/>
HUMIDIFIER:	<u>NONE</u>	<input type="checkbox"/>
COOLING COIL:	<u>CW</u>	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 9 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRES STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
REQ START:	<u>0</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>0</u>
REQ STOP:	<u>0</u>	<u>17</u>	<u>17</u>	<u>17</u>	<u>17</u>	<u>17</u>	<u>0</u>

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: \_\_\_\_\_  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLs? N  
MAX OA DMPR CONTROL: N ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8021  
AHU NUMBER: HV-1  
AHU LOCATION: SUPPLY ROOM  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: SUPPLY ROOM  
% OF BLDG AREA HEATED: 12.6

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,400  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 0.5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 9  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: Y  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/11/94

LOCATION: FT. RILEY, KS

PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8021

AHU NUMBER: HV-2

AHU LOCATION: SUPPLY AREA

REFRIG SYS # SRVNG AHU:

SERVES AREA: SUPPLY AREA

% OF BLDG AREA HEATED: 12.6

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,400

CFM-CLG: 0

MIN %OA: 100

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 0.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 9

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLs? ☐MAX OA DMPR CONTROL: ☒ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☒ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

## AIR HANDLING UNIT SURVEY OBSERVATIONS

BUILDING NUMBER: 8021  
AHU NUMBER: HV-3 AHU LOCATION: SUPPLY AREA  
REFRIG SYS # SRVNG AHU: SERVES AREA: SUPPLY AREA  
% OF BLDG AREA HEATED: 12.6

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,400  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

## NAMEPLATE

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 0.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

## COILS

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

## SCHEDULE

DAY SCHEDULE NO: 9 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☐ ☐ ☐ ☐ ☐ ☒ ☒ ☒

## CONTROLS

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLS? N  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: Y ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8021  
AHU NUMBER: HV-4 AHU LOCATION: SUPPLY ROOM  
REFRIG SYS # SRVNG AHU: SERVES AREA: SUPPLY ROOM  
% OF BLDG AREA HEATED: 12.6

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,400  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 0.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 9 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLs? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8021  
AHU NUMBER: HV-5  
AHU LOCATION: SUPPLY AREA  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: SUPPLY AREA  
% OF BLDG AREA HEATED: 12.6

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,400  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 0.5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 9  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: Y  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 8021

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☐ ☐ **BOILER**  
BOILER TAG: \_\_\_\_\_  
BOILER TYPE: \_\_\_\_\_  
FUEL TYPE: \_\_\_\_\_

☒ **CONVERTER**  
CONVERTER TAG: CV-1  
CONVERTER TYPE: STM TO HTHW  
CONV HT SOURCE: STEAM FROM CENTRAL PLANT

☒ **CENTRAL PLANT DIRECT**

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 450,000

UNIT MODEL: \_\_\_\_\_

BLR CAP INPUT (BTUH): 0

COMMENTS: \_\_\_\_\_

#### SCHEDULE

DAYS SCHEDULE NO: 9

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: \_\_\_\_\_

RESET CONTROLS: ☐ N

OPERATING SETPOINT: 160 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: O.A. TEMP HW RESET

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 8021

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE:



☐ BOILER

BOILER TAG:

BOILER TYPE:

FUEL TYPE:

☐ CONVERTER

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION:

BOILER MFG:

UNIT MODEL:

COMMENTS:

BLR CAP OUTPUT (BTUH):

BLR CAP INPUT (BTUH):

### SCHEDULE

DAYS SCHEDULE NO: 9

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS:

OPERATING SETPOINT:

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

RESET CONTROLS: ☒ N

DEG F or PSIG

### HW PUMP

PUMP TAG: DTWP-1

PUMP HP: 2

PUMP MFG: MARATHON

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: WVM143TTDR5336AA

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 8021

FILE: 8021.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	CFC-1	LOCATION (Rm)					
AHU TYPE:	2P FC	MFG.:	MODEL:				
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 4' @ ~1"			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 8021

FILE: 8021.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	H&V-1-5	LOCATION (Rm)					
AHU TYPE:	H&V	MFG.:				MODEL:	
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)				
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System				
DD - Dual Duct	UH - Unit Heater		IND - Induction System				
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:	TYPICAL OF 5 H&V'S						DPR-ACT = Damper Actuator
							RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:	3/8" - 1/2" LINE FEEDING COIL						RP-ACT = Replace Actuator
							RP-BD = Replace Body
AHU PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:		8'	
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 8021

FILE: 8021.XLS

BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS				
BOILER/CONVERTER NO.	CV-1	LOCATION (RM)	MER	
BOILER TYPE:		MFG.:	MODEL:	
CONVERTER TYPE:	STM/HW	MFG.:	OLD DOMINION STEE	MODEL: HE-2084-MZ: SERIAL 1976
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:	8" DIA, 6' LONG CONVERTER			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:	MANUAL AIR VENT ON CONVERTER HAS SMALL LEAK; CHILLED WATER VALVE IS GOOD; PRV IS GOOD; 3-WAY CONTROL VALVE GOOD (SUMMER/WINTER CHANGEOVER)			
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTO	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTO	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTO	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTO	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
CV PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 3' OF 2"
COMMENTS:				

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: JM/AJN

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 8057

BLDG NAME: ADMIN & SUPPORT BLDG

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 23,676

GAS METER: ☐ N

SUSPECT ACM: ☐ N

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 4

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

### REMARKS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8057

AHU NUMBER: FC-1

AHU LOCATION: ABOVE CEILING

REFRIG SYS # SRVNG AHU: CENTRAL PLANT

SERVES AREA: ADMIN OFFICES

% OF BLDG AREA HEATED: 37

AHU UNIT TYPE FAN COILS - 2 PIPE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 18,000

CFM-CLG: 18,000

MIN %OA: 20

MAX %OA: 20

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 1

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 4

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8057

AHU NUMBER: HV-1

AHU LOCATION: SUPPLY AREA

REFRIG SYS # SRVNG AHU:

SERVES AREA: SUPPLY AREA

% OF BLDG AREA HEATED: 12.6

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,400

MIN %OA: 100

CFM-CLG: 0

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 0.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 4

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLS? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8057  
AHU NUMBER: HV-2  
AHU LOCATION: SUPPLY AREA  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: SUPPLY AREA  
% OF BLDG AREA HEATED: 12.6

AHU UNIT TYPE HEATING AND VENTILATING  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,400  
MIN %OA: 100  
CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 0.5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 4  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: Y  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8057  
AHU NUMBER: HV-3  
AHU LOCATION: SUPPLY AREA  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: SUPPLY AREA  
% OF BLDG AREA HEATED: 12.6

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,400  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 0.5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 4  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0  
COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0  
MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
MAX OA DMPR CONTROL: Y  
ECONOMIZER DB CONTROL: N  
TIME CLOCK: N  
RET AIR DMPR CONTROL: Y  
ECONOMIZER WB CONTROL: N  
TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/11/94

LOCATION: FT. RILEY, KS

PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8057

AHU NUMBER: HV-4

AHU LOCATION: SUPPLY AREA

REFRIG SYS # SRVNG AHU:

SERVES AREA: SUPPLY AREA

% OF BLDG AREA HEATED: 12.6

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,400

CFM-CLG: 0

MIN %OA: 100

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 0.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 4

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8057  
AHU NUMBER: HV-5  
AHU LOCATION: SUPPLY AREA  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: SUPPLY AREA  
% OF BLDG AREA HEATED: 12.6

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,400  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 0.5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 4  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: Y  
EXH AIR DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLS? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 8057

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☐☐ **BOILER**

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☒ **CONVERTER**

CONVERTER TAG: CV-1

CONVERTER TYPE: STM TO HW

CONV HT SOURCE: STEAM FROM CENTRAL PLANT

☒

CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 450,000

UNIT MODEL: \_\_\_\_\_

BLR CAP INPUT (BTUH): 0

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 4

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: \_\_\_\_\_

RESET CONTROLS: ☒ N

OPERATING SETPOINT: 160 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 8057

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: \_\_\_\_\_

**BOILER**

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

**CONVERTER**

CONVERTER TAG: \_\_\_\_\_

CONVERTER TYPE: \_\_\_\_\_

CONV HT SOURCE: \_\_\_\_\_

**CENTRAL PLANT DIRECT****NAMEPLATE**

% AREA HEATED BY BB RADIATION: \_\_\_\_\_

BOILER MFG: \_\_\_\_\_

UNIT MODEL: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): \_\_\_\_\_

BLR CAP INPUT (BTUH): \_\_\_\_\_

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 4

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: \_\_\_\_\_

RESET CONTROLS: ☒ N

OPERATING SETPOINT: \_\_\_\_\_ DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: DTWP-1

PUMP HP: 1

PUMP MFG: MARATHON

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: WVM143TTDR5336AA

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

7 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

BLDG:

8057

FILE:

8057.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	H&V-1-5	LOCATION (Rm)	SUPPLY AREA				
AHU TYPE:	H&V	MFG.:	MODEL:				
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:	O.A. & F.A. INTERLOCKED DAMPERS. TYPICAL OF 5 H&V'S IN						DPR-ACT = Damper Actuator
	BUILDING.						RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE: 1/2"	CNTLVLV	OK: X	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:							RP-ACT = Replace Actuator
						RP-BD = Replace Body	
AHU PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 6'			
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 8057

FILE: 8057.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	ABOVE CEILING					
AHU TYPE:	2P FC	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								DPR-ACT = Damper Actuator
								RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A		
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:		N/A		
COMMENTS:								
COOLING COIL	N/A:	OK: X*	REPLACE:	SIZE:	CNTLVLV	N/A	RP- ACT:	RP-BD:
HEATING COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:								
*DUAL TEMP. COIL; NO CONTROL VALVE; BALANCING VALVES @ EACH								RP-ACT = Replace Actuator
FAN COIL UNIT								RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 8057

FILE: 8057.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-1	LOCATION (RM)	MER	
BOILER TYPE:	STM/HW	MFG.:	MODEL:	
CONVERTER TYPE:		MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS: CONTROL VALVE FOR CHILLED WATER, OK.				
CV PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
CV PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS: DUAL TEMP. CONTROL VALVE FOR CHILLED WATER, OK @ 3"				
CV INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 3' ON PUMP
COMMENTS: 3' ON CW PIPE				

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 0227 BLDG NAME: ENL BARRACKS W/AS  
ELECTRIC METER: N CONDITIONED SQFT: 32,303  
GAS METER: N  
SUSPECT ACM: N

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

### REMARKS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0227

AHU NUMBER: AHU-1

AHU LOCATION: MER 2ND FLR EAST

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: 1ST AND 2ND FLR-EAST

% OF BLDG AREA HEATED: 40

AHU UNIT TYPE MULTI ZONE

NUMBER OF ZONES IF MZ UNIT: 5

CFM-HTG: 10,120

MIN %OA: 10

CFM-CLG: 10,120

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: Y

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0227

AHU NUMBER: AHU-2

AHU LOCATION: 2ND FLR MER WAST

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: 1ST AND 2ND WEST FLOORS

% OF BLDG AREA HEATED: 40

AHU UNIT TYPE MULTI ZONE

NUMBER OF ZONES IF MZ UNIT: 5

CFM-HTG: 10,039

CFM-CLG: 10,039

MIN %OA: 10

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: BALDOR

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: M3218T

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: Y

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLS? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0227

AHU NUMBER: AHU-3

AHU LOCATION: MER BASEMENT

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: 1ST AND 2ND SOUTH BASEME

% OF BLDG AREA HEATED: 4

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 1,100

CFM-CLG: 1,100

MIN %OA: 10

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 1

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: Y

MIXED AIR DMPR CONTROL: Y

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS: Controls are in poor condition

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0227

AHU NUMBER: AHU-4

AHU LOCATION: MER BASEMENT

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: 1ST AND 2ND SOUTH BASEME

% OF BLDG AREA HEATED: 4

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 1,100

CFM-CLG: 1,100

MIN %OA: 10

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 1

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: Y

MIXED AIR DMPR CONTROL: Y

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0227  
AHU NUMBER: AHU-5  
AHU LOCATION: BASEMENT MER  
REFRIG SYS # SRVNG AHU: CH-1  
SERVES AREA: BASEMENT NE  
% OF BLDG AREA HEATED: 12

AHU UNIT TYPE SINGLE ZONE  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,800  
MIN %OA: 10  
CFM-CLG: 2,800  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 1  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: MARATHON  
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
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**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: Y  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: Y  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: Y  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:



# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0227

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: ALL



**BOILER**

BOILER TAG: BLR-1  
BOILER TYPE: MED PRESS STEAM (15# TO 125#)  
FUEL TYPE: NAT. GAS



**CONVERTER**

CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: KEWANNEE  
UNIT MODEL: TYPE C

BLR CAP OUTPUT (BTUH): 758,400  
BLR CAP INPUT (BTUH): 948,000

COMMENTS: \_\_\_\_\_

### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 0227

BOILER RM LOCATION: MER-WEST

**BOILER UNIT**

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

**BOILER**

BOILER TAG: BLR-2  
BOILER TYPE: MED PRESS STEAM (15# TO 125#)  
FUEL TYPE: NAT. GAS

☐ **CONVERTER**

CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_

**CENTRAL PLANT DIRECT****NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: KEWANEE

BLR CAP OUTPUT (BTUH): 758,400

UNIT MODEL: TYPE C

BLR CAP INPUT (BTUH): 948,000

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: Y

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: AJN/CWW

**REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS**

BLDG NUMBER: 0227 BLDG NAME: ENL BARRACKS W/AS  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: AHU-1,2,3,4,5  
UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

**NAMEPLATE**

CHILLER MFG:	BOHN	TOWER MFG:	
CHILLER MODEL:	VRB0655B	# OF TOWER FANS:	2
CHILLER SERIAL NO:	BCI8097	TOWER FAN V:	208
CHILLER V:	208	TOWER FAN AMPS:	16.2
CHILLER AMPS:	118	TOWER FAN HP:	5
CHILLER PH:	3		
CHILLER CAP (TONS):	65		

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☐ ☐ ☐ ☐ ☒ ☒ ☒ ☒ ☒ ☐ ☐ ☐

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐ N  
PRESS LITE LOW: ☐ N  
PRESS GAUGES: ☐ Y

TEMP LITE HI: ☐ N  
TEMP LITE LOW: ☐ N  
TEMP GAUGES: ☐ Y

OTHER INDICATIONS:

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 3 PUMP MFG:  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 227

FILE: 227.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	BASEMENT MER, EAST					
AHU TYPE:	SZ	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:X	RP-BD:X
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 227

FILE: 227.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	EAST BASEMENT MER				
AHU TYPE:	SZ	MFG.:	MODEL:				
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:				
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE: 1-1/2"	CNTLVLV	OK:	RP- ACT:X RP-BD:X
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK:	REPLACE	ESTIMATED QUANTITY:	10' @ 2"		
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 227

FILE: 227.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-3	LOCATION (Rm)	1ST FLOOR WEST					
AHU TYPE:	MZ-5	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
COMMENTS: ONE ZONE DAMPER NOT HOOKED UP, LINKAGE DISCONNECTED.								
TWO DOWN & 3 UP								
DPR-ACT = Damper Actuator RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK:	REPLACE: X	COMMENTS: 5 HP MARATHON ELEC.					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	(NONE)	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS: AHU TYPICAL OF TWO. EXCEPT EAST 1ST FLOOR HAS ALL ZONE								
ACTUATORS HOOKED TO THE DAMPERS AND THIS UNIT HAS								
3 ZONES DOWN & 2 UP.								
RP-ACT = Replace Actuator RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 227

FILE: 227.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-4	LOCATION (Rm)	WEST BASEMENT					
AHU TYPE:	SZ	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	CLEAN	SIZE: 1"	CNTLVLV	OK:	RP- ACT:X	RP-BD:X
HEATING COIL	N/A:	OK: X	CLEAN	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:		8' @ 1-1/2"		
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

LOCATION: FT. RILEY, KANSAS

AJN

FILE: 227.XLS

BLDG:

227

CHILLER / EQUIP. NO.	CH-1	LOCATION (RM)	MER EAST
REFG. EQUIP. TYPE:	R-ACCU	MFG.: BOHN	MODEL: ACWC 54D
C-WCT = Centrifugal w/ Water Side Cooling Tower		R-ACCU = Reciprocating w/ Air Cooled Condensing Unit	
R-WCT = Reciprocating w/ Water Side Cooling Tower		ASB-WCT = Absorption w/ Water Side Cooling Tower	
ACCU = Air Cooled Condensing Unit		CT = Cooling Tower	
COMP. MOTOR	N/A:	OK: X	REPLACE: SIZE:
COMP. MOTOR	N/A:	OK: X	REPLACE: SIZE:
COMP. MOTOR	N/A:	OK:	REPLACE: SIZE:
COMP. MOTOR	N/A:	OK:	REPLACE: SIZE:
CT/ACCU FAN MTR	N/A:	OK: X	REPLACE: SIZE: 5 HP
CT/ACCU FAN MTR	N/A:	OK: X	REPLACE: SIZE: 5 HP
CT/ACCU FAN MTR	N/A:	OK:	REPLACE: SIZE:
COMMENTS:	140		
COOLING TOWER	N/A:	OK: X	REPLACE: SIZE:
AIR COOLED COND.	N/A:	OK: X	REPLACE: SIZE:
COMMENTS:			
CHILLER INSUL.	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
CHW PIPE INSUL.	N/A:	OK:	MISSING: X ESTIMATED QUANTITY: 6' @ 4"
COMMENTS:			
CHW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE: 3 HP
CHW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:	PUMP UNINSULATED		



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 227

FILE: 227.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	WEST MER	
BOILER TYPE:	STM	MFG.:	KEWANEE	MODEL: TYPE C
CONVERTER TYPE:		MFG.:		MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X	REPLACE:
COMMENTS: CONVERTED COAL BOILER				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 227

FILE: 227.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-2	LOCATION (RM)	EAST MER	
BOILER TYPE:	STM	MFG.:	KEWANEE	MODEL: TYPE C
CONVERTER TYPE:		MFG.:		MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter		
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X	REPLACE:
COMMENTS:	BOILER IS NOT ON			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/12/94

PREPARED BY: JM

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 0402

BLDG NAME: ENL BARRACKS W/AS

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 35,718

GAS METER: ☐ Y

SUSPECT ACM: ☐ N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/12/94

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0402

AHU NUMBER: AHU-1

AHU LOCATION: 2ND FLR MER WEST

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: 1ST AND 2ND WEST

% OF BLDG AREA HEATED: 40

AHU UNIT TYPE MULTI ZONE

NUMBER OF ZONES IF MZ UNIT: 5

CFM-HTG: 9,325

CFM-CLG: 9,325

MIN %OA: 10

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: N/A

UNIT MODEL:

SUPPLY FAN HP: 7.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: BVD213TTDR7359

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 90

HOT DECK DEG F: 90

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 61

MIXED AIR DEG F: 61

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLS? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: Y

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0402  
AHU NUMBER: AHU-2  
AHU LOCATION: 2ND FLR MER W&E  
REFRIG SYS # SRVNG AHU: CH-1  
SERVES AREA: 1ST & 2ND EAST  
% OF BLDG AREA HEATED: 50

AHU UNIT TYPE MULTI ZONE

NUMBER OF ZONES IF MZ UNIT: 5

CFM-HTG: 11,800  
MIN %OA: 10

CFM-CLG: 11,800  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: N/A  
UNIT MODEL:  
SUPPLY FAN HP: 5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: MARATHON  
RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL:  
RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 90  
HOT DECK DEG F: 90  
PRESENT TEMP WINTR UNOCC: 0  
COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 61  
MIXED AIR DEG F: 61  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
MAX OA DMPR CONTROL: Y  
ECONOMIZER DB CONTROL: N  
TIME CLOCK: N  
RET AIR DMPR CONTROL: Y  
ECONOMIZER WB CONTROL: N  
TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: Y

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/12/94

LOCATION: FT. RILEY, KS

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0402

AHU NUMBER: AHU-3

AHU LOCATION: BASEMENT MER

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: BASEMENT NORTH

% OF BLDG AREA HEATED: 10

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 1,300

CFM-CLG: 1,300

MIN %OA: 25

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 3

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: Y

IMPLEMENT DEMAND LIMIT CNTRLS? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: Y

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: Y

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 0402

BOILER RM LOCATION: BASEMENT

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE:

**BOILER**

BOILER TAG: BLR-1

BOILER TYPE: MED PRESS STEAM (15# TO 125#)

FUEL TYPE: NAT. GAS

☐ **CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION:

0

BOILER MFG: BURNHAM

UNIT MODEL: EL60GPF

BLR CAP OUTPUT (BTUH): 2,102,000

BLR CAP INPUT (BTUH): 2,627,500

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 10 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 0402 BLDG NAME: ENL BARRACKS W/AS  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: AHU-1,2,3  
UNIT TYPE AIR COOLED CONDENSING UNIT W/ CHW

### NAMEPLATE

CHILLER MFG:	BOHN	TOWER MFG:	
CHILLER MODEL:	ACWC47D	# OF TOWER FANS:	2
CHILLER SERIAL NO:	BCH8160	TOWER FAN V:	208
CHILLER V:	208	TOWER FAN AMPS:	100
CHILLER AMPS:	100	TOWER FAN HP:	5
CHILLER PH:	0		
CHILLER CAP (TONS):	65		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI: ☐ TEMP LITE HI: ☐ OTHER INDICATIONS:  
PRESS LITE LOW: ☐ TEMP LITE LOW: ☐  
PRESS GAUGES: ☐ TEMP GAUGES: ☐

CONTROLS COMMENTS:

### CW and CNW PUMPS

PUMP TAG: 1 PUMP HP: 1.5 PUMP MFG: MARATHON  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL:



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

13 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

BLDG:

402

FILE:

402.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	SOUTH 2ND FLOOR MER					
AHU TYPE:	MZ-5	MFG.:				MODEL:		
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
E.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:	
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
ZONE DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:	
COMMENTS:	RA & OA LINKED						DPR-ACT = Damper Actuator	
							RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:	SIMILAR TO 227							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS: MARATHON 5 HP				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	(NONE)	RP-ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP-ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:	
COMMENTS:	AHU-1 IS THE SAME AS AHU-2						RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 402

FILE: 402.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-4	LOCATION (Rm)	BASEMENT					
AHU TYPE:	SZ	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP - ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP - ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP - ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP - ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP - ACT:	
COMMENTS:	OA & RA INTERLOCKED						DPR-ACT = Damper Actuator	
								RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:	3/4 HP MARATHON			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:	N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:	PERIMETER RADIATION IN HALLWAYS & BASEMENT							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE: 1-1/2"	CNTLVLV	OK:	RP - ACT:	RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP - ACT:	RP-BD:
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP - ACT:	RP-BD:
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP - ACT:	RP-BD:
COMMENTS:							RP-ACT = Replace Actuator	
								RP-BD = Replace Body
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:	1.5 MARATHON			
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:	RUSTED, CHILLED WATER			
COMMENTS:	PUMP UN-INSULATED							
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:		5' @ 2"		
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

FILE: 402.XLS

BLDG: 402

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 402

FILE: 402.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	STM	MFG.: BURNHAM	MODEL: EC-60-G-PF
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X
REPLACE:			
COMMENTS:	NEWER LOOKING BOILER		
GAS METER			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING:
ESTIMATED QUANTITY:			
PIPE INSULATION	N/A:	OK:	MISSING: X
ESTIMATED QUANTITY: 15' @ 6"			
COMMENTS:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:
COMMENTS:			
CV PUMP MOTOR	N/A: X	OK:	REPLACE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:
COMMENTS:			
CV INSULATION	N/A: X	OK:	MISSING:
ESTIMATED QUANTITY:			
CV PIPE INSUL.	N/A: X	OK:	MISSING:
ESTIMATED QUANTITY:			
COMMENTS:			

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/12/94

PREPARED BY: JM

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 0410

BLDG NAME: ENL BARRACKS W/AS

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 32,883

GAS METER: ☐ N

SUSPECT ACM: ☐ N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/12/94

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0410

AHU NUMBER: AHU-1

AHU LOCATION: BASEMENT

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: BSMT REC AREA

% OF BLDG AREA HEATED: 6

AHU UNIT TYPE MULTI ZONE

NUMBER OF ZONES IF MZ UNIT: 2

CFM-HTG: 1,950

MIN %OA: 14

CFM-CLG: 1,950

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: N/A

UNIT MODEL: N/A

SUPPLY FAN HP: 1

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: E143TTDR7350AK

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 70

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 55

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLS? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/12/94

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0410

AHU NUMBER: AHU-2

AHU LOCATION:

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: 1ST FLR S.E. WING

% OF BLDG AREA HEATED: 29

AHU UNIT TYPE MULTI ZONE

NUMBER OF ZONES IF MZ UNIT: 2

CFM-HTG: 12,375

MIN %OA: 14

CFM-CLG: 12,375

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: N/A

UNIT MODEL: N/A

SUPPLY FAN HP: 7.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: Y

IMPLEMENT DEMAND LIMIT CNTRLs? Y

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/12/94

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0410

AHU NUMBER: AHU-3

AHU LOCATION: MER 2ND FLR

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: 1ST AND 2ND FLOR N.W. WING

% OF BLDG AREA HEATED: 29

AHU UNIT TYPE MULTI ZONE

NUMBER OF ZONES IF MZ UNIT: 4

CFM-HTG: 12,375

MIN %OA: 14

CFM-CLG: 12,375

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: N/A

UNIT MODEL: N/A

SUPPLY FAN HP: 7.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 65

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 55

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: Y

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: Y

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0410  
AHU NUMBER: UH-1  
REFRIG SYS # SRVNG AHU: N/A  
AHU LOCATION: BASEMENT  
SERVES AREA: BSMT N.W. WING  
% OF BLDG AREA HEATED: 8

AHU UNIT TYPE UNIT HEATER  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 1,260  
MIN %OA: 0  
CFM-CLG: 0  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG: N/A  
SUPPLY FAN HP: 0.16  
SUPPLY FAN MTR MFG:  
SUPPLY FAN MTR MODEL:  
COMMENTS:  
UNIT MODEL: N/A  
RET/EXH FAN HP: 0  
RET/EXH FAN MTR MFG:  
RET/EXH FAN MTR MODEL:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: N  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
THERMOSTAT TYPE:  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/12/94

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0410

AHU NUMBER: UH-2

AHU LOCATION: BASEMENT

REFRIG SYS # SRVNG AHU:

SERVES AREA: BSMT. S.E. WING

% OF BLDG AREA HEATED: 8

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 1,270

CFM-CLG: 0

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG: N/A

UNIT MODEL:

SUPPLY FAN HP: 0.33

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE:

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRL? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0410

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: ALL



#### BOILER

BOILER TAG: BLR-1  
BOILER TYPE: MED PRESS STEAM (15# TO 125#)  
FUEL TYPE: NAT. GAS



#### CONVERTER

CONVERTER TAG:  
CONVERTER TYPE:  
CONV HT SOURCE:



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 20

BOILER MFG: BURHAM  
UNIT MODEL: 4FL20940LB

BLR CAP OUTPUT (BTUH): 1,749,000  
BLR CAP INPUT (BTUH): 2,186,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: Y

OPERATING SETPOINT: 7.5 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 0410 BLDG NAME: ENL BARRACKS W/AS  
PER RAD (SYSTEM TAG) NO: RAD-1 RAD SYS LOCATION:  
SOURCE OF HEATING: BOILER SERVES AREA: HALLWAYS/STAIRS  
RADIATION UNIT TYPE: STEAM % AREA HTG: 20

### SCHEDULE

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS: PNEUMATIC

RADIATION CONTROL: 2-WAY VALVE, MANUAL O

OCC HT SPACE SP: 65

UNOCC HT SPACE SP: 0

RESET CONTROL: ☒ N

CONTROL COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM

## REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 0410 BLDG NAME: ENL BARRACKS W/AS  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: AHU-1, 2, & 3  
UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

## NAMEPLATE

CHILLER MFG:	TSI	TOWER MFG:	
CHILLER MODEL:	SE2CD70	# OF TOWER FANS:	6
CHILLER SERIAL NO:		TOWER FAN V:	208
CHILLER V:	0	TOWER FAN AMPS:	48
CHILLER AMPS:	135	TOWER FAN HP:	1
CHILLER PH:	0		
CHILLER CAP (TONS):	73.8		
COMMENTS:			

## SCHEDULE

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐

TEMP LITE HI: ☐

OTHER INDICATIONS:

PRESS LITE LOW: ☐

TEMP LITE LOW: ☐

PRESS GAUGES: ☐

TEMP GAUGES: ☐

CONTROLS COMMENTS:

## CW and CNW PUMPS

PUMP TAG: 1 PUMP HP: 3 PUMP MFG: BALDOR  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL: M3211T

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
 CLIENT CONTRACT NO.: DACA 01-94-D-0033  
 LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 410

FILE: 410.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1,2	LOCATION (Rm)	2ND FLOOR MER					
AHU TYPE:	MZ-4(3),MZ-6(2)	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
E.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS: EXHAUST AIR DAMPER NOT SEEN ON UNIT #2								DPR-ACT = Damper Actuator
								RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X (#3)	REPLACE FAN BEARINGS: X (#2)		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	(NONE)	RP- ACT:	RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:								RP-ACT = Replace Actuator
								RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:		25' @ 4"		
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 410

FILE: 410.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-3	LOCATION (Rm)	MER BASEMENT				
AHU TYPE:	MZ-2	MFG.:	MODEL:				
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
COMMENTS:		1ST FLOOR AHU TYPICAL (CENTER OF BLDG)				DPR-ACT = Damper Actuator	
						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS:				
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:				
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	(NONE)	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE: 1"	CNTLVLV	OK: X	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:						RP-ACT = Replace Actuator	
						RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:	10' @ 1-1/2"		
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 9 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN  
FILE: 410.XLS

FILE: 410.XLS

REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS					
CHILLER / EQUIP. NO.	CH-1	LOCATION (RM)	OUTSIDE (NORTH OF BLDG)		
REFG. EQUIP. TYPE:	R-ACCU	MFG.:	TSI	MODEL:	30A0CD70
C-WCT = Centrifugal w/ Water Side Cooling Tower		R-ACCU = Reciprocating w/ Air Cooled Condensing Unit			
R-WCT = Reciprocating w/ Water Side Cooling Tower		ASB-WCT = Absorption w/ Water Side Cooling Tower			
ACCU = Air Cooled Condensing Unit		CT = Cooling Tower			
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	
COMP. MOTOR	N/A:	OK:	REPLACE:	SIZE:	
COMP. MOTOR	N/A:	OK:	REPLACE:	SIZE:	
CT/ACCU FAN MTR	N/A:	OK: X	REPLACE:	SIZE:	
CT/ACCU FAN MTR	N/A:	OK:	REPLACE:	SIZE:	
CT/ACCU FAN MTR	N/A:	OK:	REPLACE:	SIZE:	
COMMENTS:	LOOKS NEWLY INSTALLED				
	6 CONDENSER FANS				
COOLING TOWER	N/A:	OK:	REPLACE:	SIZE:	
AIR COOLED COND.	N/A:	OK: X	REPLACE:	SIZE:	
COMMENTS:					
CHILLER INSUL.	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:	
CHW PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:	
COMMENTS:					
CHW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:	
CHW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:	
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
COMMENTS:	MARATHON, 3 HP				



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

9 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

BLDG:

410

FILE:

410.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	BASEMENT MER	
BOILER TYPE:	STM	MFG.:	BURNHAM	MODEL: PF-510
CONVERTER TYPE:		MFG.:		MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X	REPLACE:
COMMENTS:	SMELL GAS, BOILER COLD			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 25' @ 5"
COMMENTS:				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/12/94

PREPARED BY: JM/AJN

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 0540

BLDG NAME: OFF QTRS MILIT

ELECTRIC METER: ☐ Y

CONDITIONED SQFT: 14,528

GAS METER: ☐ Y

SUSPECT ACM: ☐ N

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

### REMARKS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0540  
AHU NUMBER: FC-1  
AHU LOCATION: THROUGHOUT BLDG  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: ALL  
% OF BLDG AREA HEATED: 100

AHU UNIT TYPE FAN COILS - 2 PIPE  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 16,530  
MIN %OA: 0  
CFM-CLG: 16,530  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 10  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS: TOTAL FOR 37 FAN COIL UNITS

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ N  
RET AIR DMPR CONTROL: ☐ N  
EXH AIR DMPR CONTROL: ☐ N  
MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N  
IMPLEMENT DEMAND LIMIT CNTRLs? ☐ N  
TIME CLOCK: ☐ N  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM/AJN

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 0540

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL

**BOILER**

BOILER TAG: BLR-1

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS

☐ **CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: BURNHAM

UNIT MODEL: PGX-2006AWN1

BLR CAP OUTPUT (BTUH): 138,000

BLR CAP INPUT (BTUH): 164,000

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

**HW PUMP**

PUMP TAG: 1

PUMP HP: 0.04

PUMP MFG: TACO

PUMP SERVICE: HW PUMP

PUMP MODEL: 007-F4

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM/AJN

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0540

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: ALL



#### BOILER

BOILER TAG: BLR-2  
BOILER TYPE: HW (UP TO 250 DEG)  
FUEL TYPE: NAT. GAS



#### CONVERTER

CONVERTER TAG:   
CONVERTER TYPE:   
CONV HT SOURCE:



#### CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: BURNHAM

UNIT MODEL: PGX-200GAWNI

BLR CAP OUTPUT (BTUH): 138,000

BLR CAP INPUT (BTUH): 164,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: Y

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

### HW PUMP

PUMP TAG: 1

PUMP HP: 0.04

PUMP MFG: TACO

PUMP SERVICE: HW PUMP

PUMP MODEL: 007-F4

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM/AJN

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 0540

BOILER RM LOCATION: MER

**BOILER UNIT**

BLR/CONVERTER SERVES AREA OR SERVICE: ALL

SOURCE OF BLDG HEAT

<input checked="" type="checkbox"/> <b>BOILER</b>	<input type="checkbox"/> <b>CONVERTER</b>
BOILER TAG: BLR-3	CONVERTER TAG:
BOILER TYPE: HW (UP TO 250 DEG)	CONVERTER TYPE:
FUEL TYPE: NAT. GAS	CONV HT SOURCE:

☐ CENTRAL PLANT DIRECT**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: BURNHAM  
UNIT MODEL: PGX-2006AWN1

BLR CAP OUTPUT (BTUH): 138,000  
BLR CAP INPUT (BTUH): 164,000

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: Y

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

**HW PUMP**

PUMP TAG: 1 PUMP HP: 0.04 PUMP MFG: TACO  
PUMP SERVICE: HW PUMP PUMP MODEL: 007-F4

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM/AJN

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0540

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL



☒ BOILER

BOILER TAG: BLR-4

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS

☐ CONVERTER

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: BURNHAM

UNIT MODEL: PGX-2006AWN

BLR CAP OUTPUT (BTUH): 138,000

BLR CAP INPUT (BTUH): 164,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

### HW PUMP

PUMP TAG: 1

PUMP HP: 0.04

PUMP MFG: TACO

PUMP SERVICE: HW PUMP

PUMP MODEL: 007-F4



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM/AJN

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 0540

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL

**BOILER**

BOILER TAG: BLR-5

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS

☐ **CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: BURNHAM

UNIT MODEL: PGX-2006AWNI

BLR CAP OUTPUT (BTUH): 138,000

BLR CAP INPUT (BTUH): 164,000

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

**HW PUMP**

PUMP TAG: 1

PUMP HP: 0.04

PUMP MFG: TACO

PUMP SERVICE: HW PUMP

PUMP MODEL: 007-F4

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM/AJN

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0540

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: ALL



#### BOILER

BOILER TAG: BLR-6  
BOILER TYPE: HW (UP TO 250 DEG)  
FUEL TYPE: NAT. GAS



#### CONVERTER

CONVERTER TAG:  
CONVERTER TYPE:  
CONV HT SOURCE:



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: BURNHAM

UNIT MODEL: PGX-2006AWN1

BLR CAP OUTPUT (BTUH): 138,000

BLR CAP INPUT (BTUH): 164,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: Y

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

### HW PUMP

PUMP TAG: 1

PUMP HP: 0.04

PUMP MFG: TACO

PUMP SERVICE: HW PUMP

PUMP MODEL: 007-F4

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM/AJN

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 0540

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: DHW

☒ **BOILER**

BOILER TAG: BLR-7

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS

☐ **CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:

☐ **CENTRAL PLANT DIRECT****NAMEPLATE**

% AREA HEATED BY BB RADIATION:

0

BOILER MFG: BURNHAM

UNIT MODEL: PGX-2006AWN1

BLR CAP OUTPUT (BTUH): 138,000

BLR CAP INPUT (BTUH): 164,000

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

**HW PUMP**

PUMP TAG: 1

PUMP HP: 0.04

PUMP MFG: TACO

PUMP SERVICE: HW PUMP

PUMP MODEL: 007-F4

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM/AJN

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0540

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT: ☒ BOILER ☐ CONVERTER

BLR/CONVERTER SERVES AREA OR SERVICE: DHW

BOILER TAG: BLR-8  
BOILER TYPE: HW (UP TO 250 DEG)  
FUEL TYPE: NAT. GAS

CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_

☐ CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: BURNHAM  
UNIT MODEL: PGX-2006AWNI

BLR CAP OUTPUT (BTUH): 138,000  
BLR CAP INPUT (BTUH): 164,000

COMMENTS:

#### SCHEDULE

DAYS SCHEDULE NO: 10 MONTH SECHDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC  
OPERATING SETPOINT: 0 DEG F or PSIG  
TYPE OF BURNER CONTROLS:  
CONTROLS COMMENTS:

RESET CONTROLS: N

#### HW PUMP

PUMP TAG: 1 PUMP HP: 0.04 PUMP MFG: TACO  
PUMP SERVICE: HW PUMP PUMP MODEL: 007-F4

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM/AJN

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 0540

BOILER RM LOCATION: MER

**BOILER UNIT**

— SOURCE OF BLDG HEAT — BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☐☐ **BOILER**

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☐ **CONVERTER**

CONVERTER TAG: \_\_\_\_\_

CONVERTER TYPE: \_\_\_\_\_

CONV HT SOURCE: \_\_\_\_\_

☐

CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: \_\_\_\_\_

UNIT MODEL: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 0

BLR CAP INPUT (BTUH): 0

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: 1

PUMP HP: 2

PUMP MFG: MARATHON

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: \_\_\_\_\_

**HW PUMP**

PUMP TAG: 2

PUMP HP: 2

PUMP MFG: MARATHON

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: \_\_\_\_\_

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM/AJN

### REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS

BLDG NUMBER: 0540 BLDG NAME: OFF QTRS MILIT  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: FAN COIL UNITS  
UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

### NAMEPLATE

CHILLER MFG:	CARRIER	TOWER MFG:	
CHILLER MODEL:	38AE-044-510	# OF TOWER FANS:	4
CHILLER SERIAL NO:	2190F18047	TOWER FAN V:	0
CHILLER V:	208	TOWER FAN AMPS:	4.6
CHILLER AMPS:	76	TOWER FAN HP:	0.43
CHILLER PH:	3		
CHILLER CAP (TONS):	40		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0  
CWR SETPOINT: 0

CNWS SETPOINT: 0  
CNWR SETPOINT: 0

PRESS LITE HI: ☐  
PRESS LITE LOW: ☐  
PRESS GAUGES: ☐

TEMP LITE HI: ☐  
TEMP LITE LOW: ☐  
TEMP GAUGES: ☐

OTHER INDICATIONS:

CONTROLS COMMENTS:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 540

FILE: 540.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	IN FOYER					
AHU TYPE:	2P	MFG.:	INTERNATIONAL ENVIRONMENTAL CORP.	MODEL:	FXY-10 AYC2 L5CXX			
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	1/2 HP EA TWO MOTORS. THIS FAN COIL IS LARGER THAN ROOM							DPR-ACT = Damper Actuator
	FAN COILS (ESTIMATED). WE WERE UNABLE TO ACCESS ROOMS.							RP-ACT = Replace Actuator
	ASSUME A SMALLER FAN COIL FOR ROOMS.							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A		
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:	DUAL TEMP.							RP-ACT = Replace Actuator
								RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 13 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN  
FILE: 540 XLS

FILE: 540.XLS

[illegible]



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 540

FILE: 540.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)		
BOILER TYPE:	HW	MFG.: BURNHAM	MODEL: PXG-2006A-WNI	
CONVERTER TYPE:		MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:	164,000 BTU/HR INPUT			
	120,000 BTU/HR OUTPUT			
	HIGH EFFICIENCY			
	TYPICAL OF 6. THERE ARE 2 MORE UNITS FOR DHW			
BLR PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: 1/25 HP ON EACH BOILER
BLR PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS:	MANUAL SWITCHOVER FROM HEATING TO COOLING.			
	DUAL TEMP. SYSTEM WITH NO AUTOMATIC CONTROL VALVES.			
	SYSTEM FAIRLY NEW, 1984 PLANS			
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:	HART & COOLEY ULTRAVENT SPECIAL GAS VENT (PLASTIC)			
	FOR CAT. III OR IV APPLIANCES, UL LISTED 5350 #091189 ON PIPE			
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJNCWW

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 7404

BLDG NAME: ENL BARRACKS W/O DIN

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 50,967

GAS METER: ☐ N

SUSPECT ACM: ☐ N

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

### REMARKS:

Suspect ACM located on AHU duct flex joints.

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJNCWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7404  
AHU NUMBER: AHU-1 AHU LOCATION: BSMT MER  
REFRIG SYS # SRVNG AHU: CENTRAL PLANT SERVES AREA: SOUTH HALF OF BLDG  
% OF BLDG AREA HEATED: 0

AHU UNIT TYPE MULTI ZONE NUMBER OF ZONES IF MZ UNIT: 6

CFM-HTG: 0 CFM-CLG: 29,135  
MIN %OA: 0 MAX %OA: 0

**NAMEPLATE**

UNIT MFG: DUNHAM BUSH UNIT MODEL: MZ-320-D  
SUPPLY FAN HP: 7.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10 MONTH SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☐ ☐ ☐ ☐ ☒ ☒ ☒ ☒ ☒ ☐ ☐ ☐

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR: NO CONTROL VALVE ON CHILLED WATER

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: AJNCVWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7404  
AHU NUMBER: AHU-2 AHU LOCATION: AHU ROOM N. BSMT  
REFRIG SYS # SRVNG AHU: SERVES AREA: NORTH HALF OF BLDG  
% OF BLDG AREA HEATED: 0

AHU UNIT TYPE MULTI ZONE

NUMBER OF ZONES IF MZ UNIT: 6

CFM-HTG: 0  
MIN %OA: 0

CFM-CLG: 28,225  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG: DUNHAM BUSH UNIT MODEL: MZ-320-D  
SUPPLY FAN HP: 7.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10 MONTH SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☐ ☐ ☐ ☐ ☒ ☒ ☒ ☒ ☒ ☐ ☐ ☐

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLS? Y  
MAX OA DMPR CONTROL: N ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR: NO CONTROL VALVE ON CHILLED WATER  
CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJNCWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7404

BOILER RM LOCATION: NORTH MER EAST

#### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒ **BOILER**  
BOILER TAG: BLR-1  
BOILER TYPE: HW (UP TO 250 DEG)  
FUEL TYPE: NAT. GAS

☐ **CONVERTER**  
CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_

☐ **CENTRAL PLANT DIRECT**

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 100

BOILER MFG: BURNHAM  
UNIT MODEL: 4FL-345-45-LB  
COMMENTS: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 2,568,000  
BLR CAP INPUT (BTUH): 3,210,000

#### SCHEDULE

DAYS SCHEDULE NO: 10 MONTH SECHDULE NO: 1  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:

☒ ☒ ☒ ☒ ☐ ☐ ☐ ☐ ☐ ☒ ☒ ☒

#### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC  
OPERATING SETPOINT: 0 DEG F or PSIG  
TYPE OF BURNER CONTROLS: \_\_\_\_\_  
RESET CONTROLS: ☒ Y  
CONTROLS COMMENTS: \_\_\_\_\_

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJNCWW

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7404

BOILER RM LOCATION: NORTH MER WEST

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: DHW



#### BOILER

BOILER TAG: BLR-2  
BOILER TYPE: MED PRESS STEAM (15# TO 125#)  
FUEL TYPE: NAT. GAS

#### CONVERTER

CONVERTER TAG:   
CONVERTER TYPE:   
CONV HT SOURCE:



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: KEWANEE  
UNIT MODEL: M-65-KG

BLR CAP OUTPUT (BTUH): 650,000  
BLR CAP INPUT (BTUH): 813,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 12 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJNCWW

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 7404 BLDG NAME: ENL BARRACKS W/O DIN  
PER RAD (SYSTEM TAG) NO: RAD-1 RAD SYS LOCATION: NORTH MER SOUTH  
SOURCE OF HEATING: BLR-1 SERVES AREA: ALL  
RADIATION UNIT TYPE: HW % AREA HTG: 100

### RADIATION PUMP

PUMP TAG: 1 PUMP HP: 2 PUMP MFG: MARATHON ELECTRIC  
PUMP MODEL: YVD 145...

### RADIATION PUMP

PUMP TAG: 2 PUMP HP: 2 PUMP MFG: MARATHON ELECTRIC  
PUMP MODEL: PC56T

### SCHEDULE

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS: PNEUMATIC

RADIATION CONTROL: 3-WAY VALVE

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: N

CONTROL COMMENTS:



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

BLDG: 7404

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

FILE: 7404.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER BASEMENT					
AHU TYPE:	MZ	MFG.:	DUNHAM BUSH	MODEL:	MZ-320-D			
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
COMMENTS: TYPICAL OF 6 ZONE DAMPERS								DPR-ACT = Damper Actuator
								RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	NONE	RP- ACT:	RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:								RP-ACT = Replace Actuator
								RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7404

FILE: 7404.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	MER BASEMENT					
AHU TYPE:	MZ	MFG.:	DUNHAM BUSH	MODEL:	MZ-320-D			
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
COMMENTS: TYPICAL OF 6 ZONE DAMPERS								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	(NONE)	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

Nov-94

PREPARED BY:

AJN

CHECKED BY:

AJN

BLDG:

**7404**

FILE:

7404.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER	
BOILER TYPE:	HW	MFG.: BURNHAM	MODEL: 4-FL-345-45-LB	
CONVERTER TYPE:		MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor		
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 28'@ 6" DIA.
COMMENTS:				
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: 2 HP (NOT BOLTED TO PAD)
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: 2 HP
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE: 1/25 HP
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7404

FILE: 7404.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-2	LOCATION (RM)	MER
BOILER TYPE:	STM	MFG.: KEWANEE	MODEL: M-65-KG
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X
REPLACE:			
COMMENTS:	DOMESTIC HW USE ONLY FEEDS 2 LARGE CONV/STOR TANKS		
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
COMMENTS:			
BLR INSULATION	N/A: X	OK:	MISSING:
ESTIMATED QUANTITY:			
PIPE INSULATION	N/A: X	OK:	MISSING:
ESTIMATED QUANTITY:			
COMMENTS:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
COMMENTS:			
CV PUMP MOTOR	N/A:	OK: X	REPLACE:
CV PUMP SEALS	N/A:	OK: X	REPLACE:
SIZE: 1/25 HP			
COMMENTS:			
CV INSULATION	N/A:	OK: X	MISSING:
ESTIMATED QUANTITY:			
CV PIPE INSUL.	N/A:	OK: X	MISSING:
ESTIMATED QUANTITY:			
COMMENTS:			

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: AJN/CWW

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 7612

BLDG NAME: ENL BARRACKS W/AS

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 41,892

GAS METER: ☐ Y

SUSPECT ACM: ☐ Y

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

### REMARKS:

Suspect ACM located on pipe fittings

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/10/94

LOCATION: FT. RILEY, KS

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7612

AHU NUMBER: AHU-1

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: HALLWAYS

% OF BLDG AREA HEATED: 5

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,500

MIN %OA: 100

CFM-CLG: 3,500

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 1

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: CENTURY

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 8-331260-03

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: OTHER

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7612  
AHU NUMBER: AHU-2  
AHU LOCATION: MER 1ST FLR  
REFRIG SYS # SRVNG AHU: CH-1  
SERVES AREA: HALLWAYS  
% OF BLDG AREA HEATED: 5

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,500  
MIN %OA: 100

CFM-CLG: 3,500  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: \_\_\_\_\_ UNIT MODEL: \_\_\_\_\_  
SUPPLY FAN HP: 1 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: DAYTON RET/EXH FAN MTR MFG: \_\_\_\_\_  
SUPPLY FAN MTR MODEL: 3N450 RET/EXH FAN MTR MODEL: \_\_\_\_\_  
COMMENTS: \_\_\_\_\_

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: OTHER  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: \_\_\_\_\_  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7612

AHU NUMBER: FC-1

AHU LOCATION: THROUGHOUT BLDG

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: ALL

% OF BLDG AREA HEATED: 70

AHU UNIT TYPE FAN COILS - 2 PIPE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 41,400

MIN %OA: 0

CFM-CLG: 41,400

MAX %OA: 0

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 7.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS: TOTAL FOR 92 FAN COILS

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE:

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLS? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7612

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒

☒ BOILER

BOILER TAG: BLR-1

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS

☐ CONVERTER

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:

☐

CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 20

BOILER MFG: KEWNNEE

UNIT MODEL:

BLR CAP OUTPUT (BTUH): 2,350,000

BLR CAP INPUT (BTUH): 2,938,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7612

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: DHW



#### BOILER

BOILER TAG: BLR-2  
BOILER TYPE: MED PRESS STEAM (15# TO 125#)  
FUEL TYPE: NAT. GAS



#### CONVERTER

CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: OSAGE  
UNIT MODEL: 60-15

BLR CAP OUTPUT (BTUH): 1,939,200  
BLR CAP INPUT (BTUH): 2,424,000

COMMENTS: \_\_\_\_\_

### SCHEDULE

DAYS SCHEDULE NO: 10 MONTH SECHDULE NO: 1  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC  
OPERATING SETPOINT: 10 DEG F or PSIG  
TYPE OF BURNER CONTROLS: \_\_\_\_\_

RESET CONTROLS: N

CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7612

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒☒ BOILER

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☐ CONVERTER

CONVERTER TAG: \_\_\_\_\_

CONVERTER TYPE: \_\_\_\_\_

CONV HT SOURCE: \_\_\_\_\_

☐

CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: \_\_\_\_\_

BOILER MFG: \_\_\_\_\_

UNIT MODEL: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): \_\_\_\_\_

BLR CAP INPUT (BTUH): \_\_\_\_\_

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: \_\_\_\_\_ DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: DTWP-1

PUMP HP: 2

PUMP MFG: CENTURY

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: SC-184-KMA

**HW PUMP**

PUMP TAG: DTWP-1

PUMP HP: 1.5

PUMP MFG: CENTURY

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: SC-164-KMA

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

**HW PUMP**

PUMP TAG:	DTWP-3	PUMP HP:	1.5	PUMP MFG:	CENTURY
PUMP SERVICE:	DUAL TEMP PUMP			PUMP MODEL:	SC-164 KMA

**HW PUMP**

PUMP TAG:	DTWP-4	PUMP HP:	3	PUMP MFG:	CENTURY
PUMP SERVICE:	DUAL TEMP PUMP			PUMP MODEL:	SC-213-FMA

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 7612	BLDG NAME: ENL BARRACKS W/AS
PER RAD (SYSTEM TAG) NO: RAD-1	RAD SYS LOCATION: VESTIBULES, TOILETS
SOURCE OF HEATING: BLR-1	SERVES AREA:
RADIATION UNIT TYPE: HW	% AREA HTG: 20

### RADIATION PUMP

PUMP TAG: 1	PUMP HP: 0.5	PUMP MFG: RELIANCE
		PUMP MODEL: 442775-GT

### SCHEDULE

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS:

RADIATION CONTROL: NONE

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: ☒ N

CONTROL COMMENTS: 3 WAY PNEUMATIC CONTROL VALVE IN MER

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 7612 BLDG NAME: ENL BARRACKS W/AS  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): MER  
AHU'S SERVED: ALL  
UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

**NAMEPLATE**

CHILLER MFG: TSI	TOWER MFG: TSI
CHILLER MODEL: SC2CD70	# OF TOWER FANS: 6
CHILLER SERIAL NO:	TOWER FAN V: 0
CHILLER V: 0	TOWER FAN AMPS: 0
CHILLER AMPS: 0	TOWER FAN HP: 1
CHILLER PH: 0	
CHILLER CAP (TONS): 70	
COMMENTS:	

**SCHEDULE**

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 55 CNWR SETPOINT: 0

PRESS LITE HI: ☐ TEMP LITE HI: ☐ OTHER INDICATIONS:  
PRESS LITE LOW: ☐ TEMP LITE LOW: ☐  
PRESS GAUGES: ☐ TEMP GAUGES: ☐

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 1.5 PUMP MFG: AURORA  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

9 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

BLDG:

7612

FILE:

7612.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	IN EACH ROOM				
AHU TYPE:	FC 2P	MFG.:	MODEL:				
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
COMMENTS: TYPICAL OF 92 FAN COIL UNITS							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: N/A	RP-ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: N/A	RP-ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:
COMMENTS: RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7612

FILE: 7612.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	1ST FLOOR MER					
AHU TYPE:	SZ	MFG.:	CENTRAL AIR	MODEL:	L0815			
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	(NONE)	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7612

FILE: 7612.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	1ST FLOOR MER				
AHU TYPE:	SZ	MFG.:	CENTRAL AIRE	MODEL:			
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS: REFERENCE PHOTO FOR AHU-1							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS: RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 9 Nov-94  
PREPARED BY: AJN  
CHECKED BY: AJN

FILE: 7612.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7612

FILE: 7612.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	HW	MFG.: KEWANEE	MODEL: M-235-KX
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X
REPLACE:			
COMMENTS:	BOILER HAS RUST ON EXTERIOR.		
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING:
ESTIMATED QUANTITY:			
PIPE INSULATION	N/A:	OK: X	MISSING:
ESTIMATED QUANTITY:			
COMMENTS:			
HW PUMP MOTOR	N/A:	OK: X	REPLACE:
SIZE:	2 HP		
HW PUMP SEALS	N/A:	OK: X	REPLACE:
SIZE:	PUMP UNINSULATED		
HW PUMP MOTOR	N/A:	OK: X	REPLACE:
SIZE:	1.5 HP		
HW PUMP SEALS	N/A:	OK: X	REPLACE:
SIZE:	PUMP RUSTED, UNINSULATED		
HW PUMP MOTOR	N/A:	OK: X	REPLACE:
SIZE:	1.5 HP		
HW PUMP SEALS	N/A:	OK: X	REPLACE:
SIZE:	PUMP RUSTED, LEAKING, UNINSULATED		
HW PUMP MOTOR	N/A:	OK: X	REPLACE:
SIZE:	.5 HP		
HW PUMP SEALS	N/A:	OK: X	REPLACE:
SIZE:	PUMP RUSTED, UNINSULATED, PAD BROKEN		
COMMENTS:			
CV PUMP MOTOR	N/A:	OK:	REPLACE:
SIZE:			
CV PUMP SEALS	N/A:	OK:	REPLACE:
SIZE:			
COMMENTS:	VALVE BODY RUSTED ON 3-WAY ABOVE		
COMPRESSORS			
CV INSULATION	N/A:	OK:	MISSING:
ESTIMATED QUANTITY:			
CV PIPE INSUL.	N/A:	OK:	MISSING:
ESTIMATED QUANTITY:			
COMMENTS:			

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7612

FILE: 7612.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-2	LOCATION (RM)	MER
BOILER TYPE:	STM	MFG.: OSAGE	MODEL: 60-15
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X REPLACE:
COMMENTS:			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
COMMENTS:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS: DOMESTIC HW CONVERTERS TYPICAL OF 7616 & 7618, HOWEVER THESE HAVE NEW INSULATION/ ASBESTOS ABATED			
CV PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
CV PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A:	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 7614

BLDG NAME: ENL BARRACKS W/AS

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 41,892

GAS METER: ☐ Y

SUSPECT ACM: ☐ Y

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

### REMARKS:

Bldg. Contact @ Ext. 5367 Suspect ACM located on boiler flue and DHW storage tanks

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/10/94

LOCATION: FT. RILEY, KS

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7614

AHU NUMBER: AHU-1

AHU LOCATION: MER. NORTH

REFRIG SYS # SRVNG AHU: ch-1

SERVES AREA: HALLWAYS

% OF BLDG AREA HEATED: 5

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,500

CFM-CLG: 3,500

MIN %OA: 100

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: AIRTHERM

UNIT MODEL: L0815

SUPPLY FAN HP: 1

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: CENTURY

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 8-331260-03

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: OTHER

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLs? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7614  
AHU NUMBER: AHU-2 AHU LOCATION: MER SOUTH  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: HALLWAYS  
% OF BLDG AREA HEATED: 5

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,500 CFM-CLG: 3,500  
MIN %OA: 100 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: AIRTHERM UNIT MODEL: L0815  
SUPPLY FAN HP: 1 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: CENTURY RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 8-331260-03 RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: OTHER  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CVWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7614  
AHU NUMBER: FC-1 AHU LOCATION: THROUGHOUT BLDG  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: HALLWAYS  
% OF BLDG AREA HEATED: 70

AHU UNIT TYPE FAN COILS - 2 PIPE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 41,400 CFM-CLG: 41,400  
MIN %OA: 0 MAX %OA: 0

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 7.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS: TOTAL FOR 92 FAN COILS

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE:  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRL? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7614

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒ ☒ **BOILER** ☐ **CONVERTER**

BOILER TAG: BLR-1 CONVERTER TAG: \_\_\_\_\_

BOILER TYPE: HW (UP TO 250 DEG) CONVERTER TYPE: \_\_\_\_\_

FUEL TYPE: NAT. GAS CONV HT SOURCE: \_\_\_\_\_

☐ CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 20

BOILER MFG: KEWANEE

BLR CAP OUTPUT (BTUH): 2,350,000

UNIT MODEL: M-235-KX

BLR CAP INPUT (BTUH): 2,938,000

COMMENTS: \_\_\_\_\_

#### SCHEDULE

DAYS SCHEDULE NO: 10 MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

RESET CONTROLS: ☒ Y

CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7614

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: DHW

**BOILER**

BOILER TAG: BLR-2

BOILER TYPE: MED PRESS STEAM (15# TO 125#)

FUEL TYPE: NAT. GAS

☐ **CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: OSAGE

UNIT MODEL: 60-15

BLR CAP OUTPUT (BTUH): 1,939,200

BLR CAP INPUT (BTUH): 2,424,000

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 10 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7614

BOILER RM LOCATION: MER

**BOILER UNIT**

— SOURCE OF BLDG HEAT — BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒ ☒ **BOILER**  
BOILER TAG: \_\_\_\_\_  
BOILER TYPE: \_\_\_\_\_  
FUEL TYPE: \_\_\_\_\_

☐ ☐ **CONVERTER**  
CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_

☐ **CENTRAL PLANT DIRECT**

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: \_\_\_\_\_

BOILER MFG: \_\_\_\_\_  
UNIT MODEL: \_\_\_\_\_  
COMMENTS: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): \_\_\_\_\_  
BLR CAP INPUT (BTUH): \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:

☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC  
OPERATING SETPOINT: \_\_\_\_\_ DEG F or PSIG  
TYPE OF BURNER CONTROLS: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_

RESET CONTROLS: ☒ N**HW PUMP**

PUMP TAG: DTWP-1 PUMP HP: 2  
PUMP SERVICE: DUAL TEMP PUMP

PUMP MFG: CENTURY  
PUMP MODEL: 5C-184-KMA

**HW PUMP**

PUMP TAG: DTWP-2 PUMP HP: 2  
PUMP SERVICE: DUAL TEMP PUMP

PUMP MFG: CENTURY  
PUMP MODEL: 5C-184-KMA

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

#### HW PUMP

PUMP TAG:	DTWP-3	PUMP HP:	2	PUMP MFG:	CENTURY
PUMP SERVICE:	DUAL TEMP PUMP			PUMP MODEL:	5C-184-KMA

#### HW PUMP

PUMP TAG:	DTWP-4	PUMP HP:	3	PUMP MFG:	CENTURY
PUMP SERVICE:	DUAL TEMP PUMP			PUMP MODEL:	

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 7614	BLDG NAME: ENL BARRACKS W/AS
PER RAD (SYSTEM TAG) NO: RAD-1	RAD SYS LOCATION: VESTIBULES, TOILETS
SOURCE OF HEATING: BLR-1	SERVES AREA:
RADIATION UNIT TYPE: HW	% AREA HTG: 20

### RADIATION PUMP

PUMP TAG: 1	PUMP HP: 0.75	PUMP MFG: RELIANCE
		PUMP MODEL: 442775-GT

### SCHEDULE

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS:

RADIATION CONTROL: NONE

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: N

CONTROL COMMENTS: 3 WAY PNEUMATIC CONTROL VALVE IN MER

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

**REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS**

BLDG NUMBER: 7614

BLDG NAME: ENL BARRACKS W/AS

REF. UNIT NUMBER/TAG: CH-1

LOCATION (MER#): MER

AHU'S SERVED: AHU'S &amp; FC'S

UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

**NAMEPLATE**

CHILLER MFG: TSI  
CHILLER MODEL: SC2CD70  
CHILLER SERIAL NO: 9836-1  
CHILLER V: 208  
CHILLER AMPS: 300  
CHILLER PH: 0  
CHILLER CAP (TONS): 70

TOWER MFG: BOHN  
# OF TOWER FANS: 4  
TOWER FAN V: 208  
TOWER FAN AMPS: 7.2  
TOWER FAN HP: 1.5

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTHS SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐TEMP LITE HI: ☐

OTHER INDICATIONS:

PRESS LITE LOW: ☐TEMP LITE LOW: ☐PRESS GAUGES: ☐TEMP GAUGES: ☐

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 1.5

PUMP MFG: AURORA

PUMP SERVICE: CW PUMP (Chilled Water)

PUMP MODEL:

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7614

FILE: 7614.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	1ST FLOOR MER					
AHU TYPE:	SZ	MFG.:	CENTRAL AIRE	MODEL:	L0815			
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP- ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS: N/A				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	(NONE)	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP- ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7614

FILE: 7614.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	1ST FLOOR MER SOUTH				
AHU TYPE:	SZ	MFG.:	CENTRAL AIRE	MODEL:	L0815		
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)				
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System				
DD - Dual Duct	UH - Unit Heater		IND - Induction System				
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
COMMENTS:							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	(NONE)	RP-ACT: RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:
COMMENTS:							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

FILE: 7614.XLS

BLDG: 7614

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

CHILLER / EQUIP. NO.	CH-1	LOCATION (RM)	MER / ACCU OUTSIDE
REFG. EQUIP. TYPE:	R-ACCU	MFG.: TSI / BOHN	MODEL: SC2CD70 (CHILLER)
C-WCT = Centrifugal w/ Water Side Cooling Tower	R-ACCU = Reciprocating w/ Air Cooled Condensing Unit		
R-WCT = Reciprocating w/ Water Side Cooling Tower	ASB-WCT = Absorption w/ Water Side Cooling Tower		
ACCU = Air Cooled Condensing Unit	CT = Cooling Tower		
COMP. MOTOR	N/A:	OK: X	REPLACE: SIZE:
COMP. MOTOR	N/A:	OK: X	REPLACE: SIZE:
COMP. MOTOR	N/A:	OK:	REPLACE: SIZE:
COMP. MOTOR	N/A:	OK:	REPLACE: SIZE:
CT/ACCU FAN MTR	N/A:	OK: X	REPLACE: SIZE: TYPICAL OF 4, 2 UNITS
CT/ACCU FAN MTR	N/A:	OK:	REPLACE: SIZE:
CT/ACCU FAN MTR	N/A:	OK:	REPLACE: SIZE:
COMMENTS:	140		
COOLING TOWER	N/A:	OK:	REPLACE: SIZE:
AIR COOLED COND.	N/A:	OK: X	REPLACE: SIZE:
COMMENTS:			
CHILLER INSUL.	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
CHW PIPE INSUL.	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
COMMENTS:	DAMAGED INSULATION ON CHW PUMP		
CHW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE:
CHW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
CHW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE:
CHW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:			

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN

BLDG: 7614

FILE: 7614.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	HW	MFG.: KEWANEE	MODEL: M-235-KX
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X
REPLACE:			
COMMENTS:	BOILER RUSTED AROUND BASE		
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING:
ESTIMATED QUANTITY:			
PIPE INSULATION	N/A:	OK: X	MISSING:
ESTIMATED QUANTITY:			
COMMENTS:			
HW PUMP MOTOR	N/A:	OK: X	REPLACE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:
SIZE: 2 HP, PUMP UNINSULATED			
HW PUMP MOTOR	N/A:	OK: X	REPLACE:
HW PUMP SEALS	N/A:	OK:	REPLACE: X
SIZE: 2 HP PUMP UNINSULATED, RUSTED			
HW PUMP MOTOR	N/A:	OK: X	REPLACE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:
SIZE: 2 HP, LEAKING, RUSED, UNINSULATED			
HW PUMP MOTOR	N/A:	OK: X	REPLACE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:
SIZE: 3/4 HP, RUSTED, UNINSULATED			
SIZE: NOT BOLTED TO PAD			
COMMENTS:	3-WAY VALVE ABOVE #4 & #5 RUSTED ALSO		
CV PUMP MOTOR	N/A: X	OK:	REPLACE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
COMMENTS:			
CV INSULATION	N/A: X	OK:	MISSING:
ESTIMATED QUANTITY:			
CV PIPE INSUL.	N/A: X	OK:	MISSING:
ESTIMATED QUANTITY:			
COMMENTS:			

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7614

FILE: 7614.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-2	LOCATION (RM)	MER
BOILER TYPE:	STM	MFG.: OSAGE	MODEL: 60-15
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X
REPLACE:			
COMMENTS: RUSTED AROUND BASE.			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING:
ESTIMATED QUANTITY:			
PIPE INSULATION	N/A:	OK:	MISSING: X
ESTIMATED QUANTITY: 15' @ 3"			
COMMENTS:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
COMMENTS:			
CV PUMP MOTOR	N/A: X	OK:	REPLACE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
COMMENTS:			
CV INSULATION	N/A: X	OK:	MISSING:
ESTIMATED QUANTITY:			
CV PIPE INSUL.	N/A: X	OK:	MISSING:
ESTIMATED QUANTITY:			
COMMENTS:			

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7614

FILE: 7614.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.		CV-1	LOCATION (RM)		MER
BOILER TYPE:		TYPICAL OF 2	MFG.:		MODEL:
CONVERTER TYPE:		STM/HW	MFG.:		MODEL:
STM - Steam		STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water		HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:	
COMMENTS: ASBESTOS ON TANKS					
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:	
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:	
COMMENTS:					
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:	
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:	
COMMENTS:					
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:	
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:	
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:	
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:	
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:	
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:	
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:	
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:	
COMMENTS:					
CV PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:	
CV PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:	
COMMENTS: CONTROL VALVES OK					
CV INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:	
CV PIPE INSUL.	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 20' @ 2-1/2"	
COMMENTS:					

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: AJN/CWW

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 7616

BLDG NAME: ENL BARRACKS W/AS

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 41,892

GAS METER: ☐ Y

SUSPECT ACM: ☐ Y

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRES STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
REQ START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
REQ STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>

**REMARKS:**

Suspect ACM located on boiler flues and DHW storage tanks.

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7616  
AHU NUMBER: AHU-1 AHU LOCATION: MER 1ST FLOOR EAST  
REFRIG SYS # SRVNG AHU: ch-1 SERVES AREA: HALLWAYS  
% OF BLDG AREA HEATED: 5

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,500 CFM-CLG: 3,500  
MIN %OA: 100 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: AIRTHERM UNIT MODEL:  
SUPPLY FAN HP: 1 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: CENTURY RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 8-331260-03 RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: OTHER  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLs? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7616  
AHU NUMBER: AHU-2  
AHU LOCATION: MER 1ST FLOOR WEST  
REFRIG SYS # SRVNG AHU: CH-1  
SERVES AREA: HALLWAYS  
% OF BLDG AREA HEATED: 5

AHU UNIT TYPE SINGLE ZONE  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,500  
MIN %OA: 100  
CFM-CLG: 3,500  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: AIRTHERM  
UNIT MODEL:  
SUPPLY FAN HP: 1  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: CENTURY  
RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 8-331260-03  
RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: OTHER  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7616  
AHU NUMBER: FC-1  
AHU LOCATION: THROUGHOUT BLDG  
REFRIG SYS # SRVNG AHU: CH-1  
SERVES AREA: ALL  
% OF BLDG AREA HEATED: 70

AHU UNIT TYPE FAN COILS - 2 PIPE  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 41,400  
MIN %OA: 0  
CFM-CLG: 41,400  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG: \_\_\_\_\_ UNIT MODEL: \_\_\_\_\_  
SUPPLY FAN HP: 7.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: \_\_\_\_\_ RET/EXH FAN MTR MFG: \_\_\_\_\_  
SUPPLY FAN MTR MODEL: \_\_\_\_\_ RET/EXH FAN MTR MODEL: \_\_\_\_\_  
COMMENTS: \_\_\_\_\_

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input type="checkbox"/>
REHEAT COIL:		<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:		<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10  
MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: \_\_\_\_\_  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP: \_\_\_\_\_  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ Y  
RET AIR DMPR CONTROL: ☐ N  
EXH AIR DMPR CONTROL: ☐ N  
MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N  
IMPLEMENT DEMAND LIMIT CNTRLs? ☐ N  
TIME CLOCK: ☐ N  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_



# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7616

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: SPACE HEAT



**BOILER**

BOILER TAG: BLR-1

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS

☐ **CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 20

BOILER MFG: KEWANEE

UNIT MODEL: CAT. M-235-KX

BLR CAP OUTPUT (BTUH): 2,350,000

BLR CAP INPUT (BTUH): 2,938,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7616

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: DHW



##### BOILER

BOILER TAG: BLR-2  
BOILER TYPE: MED PRESS STEAM (15# TO 125#)  
FUEL TYPE: NAT. GAS

##### CONVERTER

CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_



CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: \_\_\_\_\_

BOILER MFG: OSAGE  
UNIT MODEL: 6015

BLR CAP OUTPUT (BTUH): 1,939,200  
BLR CAP INPUT (BTUH): 2,424,000

COMMENTS: \_\_\_\_\_

#### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 10 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7616

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE:



**BOILER**

BOILER TAG:

BOILER TYPE:

FUEL TYPE:



**CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION:

BOILER MFG:

UNIT MODEL:

COMMENTS:

BLR CAP OUTPUT (BTUH):

BLR CAP INPUT (BTUH):

#### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

#### HW PUMP

PUMP TAG: DTWP-1

PUMP HP: 2

PUMP MFG: CENTURY

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: SC-148-KMA

#### HW PUMP

PUMP TAG: DTWP-2

PUMP HP: 2

PUMP MFG: CENTURY

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: SC-148-KMA

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

#### HW PUMP

PUMP TAG:	DTWP-3	PUMP HP:	5	PUMP MFG:	CENTURY
PUMP SERVICE:	DUAL TEMP PUMP			PUMP MODEL:	SC-215-FMA

#### HW PUMP

PUMP TAG:	DTWP-4	PUMP HP:	3	PUMP MFG:	CENTURY
PUMP SERVICE:	DUAL TEMP PUMP			PUMP MODEL:	SC-213-FMA

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 7616 BLDG NAME: ENL BARRACKS W/AS  
PER RAD (SYSTEM TAG) NO: RAD-1 RAD SYS LOCATION: VESTIBULES, TOILETS  
SOURCE OF HEATING: BLR-1 SERVES AREA:  
RADIATION UNIT TYPE: HW % AREA HTG: 20

### RADIATION PUMP

PUMP TAG: 1 PUMP HP: 0.75 PUMP MFG: RELIANCE  
PUMP MODEL: 442775-ET

### SCHEDULE

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS:  
RADIATION CONTROL: NONE  
OCC HT SPACE SP: 0  
UNOCC HT SPACE SP: 0  
RESET CONTROL: ☒ N  
CONTROL COMMENTS: 3 WAY PNEUMATIC CONTROL VALVE IN MER

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN/CWW

**REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS**

BLDG NUMBER: 7616 BLDG NAME: ENL BARRACKS W/AS  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): MER  
AHU'S SERVED: FC'S AND AHU'S  
UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

**NAMEPLATE**

CHILLER MFG:	TSI	TOWER MFG:	BOHN
CHILLER MODEL:	SC2C070	# OF TOWER FANS:	4
CHILLER SERIAL NO:	9836-2	TOWER FAN V:	0
CHILLER V:	208	TOWER FAN AMPS:	0
CHILLER AMPS:	135	TOWER FAN HP:	1.5
CHILLER PH:	0		
CHILLER CAP (TONS):	70		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 45  
CWR SETPOINT: 0

CNWS SETPOINT: 0  
CNWR SETPOINT: 0

PRESS LITE HI: ☐  
PRESS LITE LOW: ☐  
PRESS GAUGES: ☐

TEMP LITE HI: ☐  
TEMP LITE LOW: ☐  
TEMP GAUGES: ☐

OTHER INDICATORS:

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 1.5 PUMP MFG: AURORA  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7616

FILE: 7616.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER 1ST FLOOR (WEST)					
AHU TYPE:	SZ	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	(NONE)	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7616

FILE: 7616.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	MER (EAST)					
AHU TYPE:	SZ	MFG.:	CENTRAIRE	MODEL:	L0815			
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS: DAMPER IS SHUT OFF, F & B IN OPEN POSITION TO COIL								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	(NONE)	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								



**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

FILE: 7616.XLS

BLDG: 7616

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7616

FILE: 7616.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	MFG.: KEWANEE	MODEL:	M-235-KX
CONVERTER TYPE:	STM/HW	MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X
REPLACE:			
COMMENTS:	ASBESTOS ON TANKS; TYPICAL OF TWO TANKS.		
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING:
PIPE INSULATION	N/A:	OK: X	MISSING:
COMMENTS:			
HW PUMP MOTOR	N/A:	OK: X	REPLACE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:
HW PUMP MOTOR	N/A:	OK: X	REPLACE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:
HW PUMP MOTOR	N/A:	OK: X	REPLACE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:
HW PUMP MOTOR	N/A:	OK: X	REPLACE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:
COMMENTS:			
CV PUMP MOTOR	N/A:	OK:	REPLACE:
CV PUMP SEALS	N/A:	OK:	REPLACE:
COMMENTS:	10' OF INSULATION @ 4" MISSING EACH PUMP		
(2 VALVES & 1 STRAINER)			
CV INSULATION	N/A:	OK: X	MISSING:
CV PIPE INSUL.	N/A:	OK:	MISSING: X
COMMENTS:			

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7616

FILE: 7616.XLS

BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS				
BOILER/CONVERTER NO.	BLR-2	LOCATION (RM)	MER	
BOILER TYPE:	STM	MFG.: OSAGE	MODEL:	60-15
CONVERTER TYPE:	STM/HW	MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 10' @ 3"
COMMENTS:				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE: 1/12 HP
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN

BLDG: 7616

FILE: 7616.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-1	LOCATION (RM)	MER
BOILER TYPE:	MFG.:		MODEL:
CONVERTER TYPE:	STM/HW	MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK: REPLACE:
COMMENTS:			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE: 1/12 HP
CV PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK:	MISSING: X ESTIMATED QUANTITY: 20' @ 3'
COMMENTS:			

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/CWW/AJN

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 7810

BLDG NAME: ENL BARRACKS W/O DIN

ELECTRIC METER: ☒

CONDITIONED SQFT: 41,843

GAS METER: ☒

SUSPECT ACM: ☒

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

### REMARKS:

Suspect ACM located on DHW storage tanks

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: JM/CWW/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7810

AHU NUMBER: AHU-1

AHU LOCATION: MER NORTH

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: HALLWAYS

% OF BLDG AREA HEATED: 5

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,500

CFM-CLG: 3,500

MIN %OA: 100

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: AIRTHERM

UNIT MODEL: L0815

SUPPLY FAN HP: 1

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: CENTURY

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 8-33-1260-03

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: OTHER

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM OCC: 0

OTHER SETPOINT DESCRIP:

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/CWW/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7810  
AHU NUMBER: AHU-2  
AHU LOCATION: MER SOUTH  
REFRIG SYS # SRVNG AHU: CH-1  
SERVES AREA: HALLWAYS  
% OF BLDG AREA HEATED: 5

AHU UNIT TYPE SINGLE ZONE  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,500  
MIN %OA: 100  
CFM-CLG: 3,500  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG: AIRTHERM  
UNIT MODEL: L0815  
SUPPLY FAN HP: 1  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: CENTURY  
RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 8-331260-03  
RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: OTHER  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLS? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/CWW/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7810  
AHU NUMBER: FC-1 AHU LOCATION: THROUGHOUT BLDG  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: ALL  
% OF BLDG AREA HEATED: 70

AHU UNIT TYPE FAN COILS - 2 PIPE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 41,400  
MIN %OA: 0

CFM-CLG: 41,400  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 7.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: OTHER  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRL? ☐  
MAX OA DMPR CONTROL: ☒ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:



# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/CVWW/AJN

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7810

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: ALL



**BOILER**

BOILER TAG: BLR-1

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS

☐ **CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



**CENTRAL PLANT DIRECT**

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 20

BOILER MFG: KEWANEE

UNIT MODEL: M-235-KX

BLR CAP OUTPUT (BTUH): 2,350,000

BLR CAP INPUT (BTUH): 2,938,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: ☒

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/CWW/AJN

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7810

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: DHW



**BOILER**

BOILER TAG: BLR-2

BOILER TYPE: MED PRESS STEAM (15# TO 125#)

FUEL TYPE: NAT. GAS



**CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: OSAGE

UNIT MODEL: 60-15

BLR CAP OUTPUT (BTUH): 1,939,200

BLR CAP INPUT (BTUH): 2,424,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 10 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/CWW/AJN

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7810

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE:

☐

☐ BOILER

BOILER TAG:

BOILER TYPE:

FUEL TYPE:

☐ CONVERTER

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:

☐

CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION:

BOILER MFG:

UNIT MODEL:

COMMENTS:

BLR CAP OUTPUT (BTUH):

BLR CAP INPUT (BTUH):

### SCHEDULE

DAYS SCHEDULE NO:

10

MONTH SECHDULE NO:

3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS:

RESET CONTROLS: ☐ N

OPERATING SETPOINT:

DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

### HW PUMP

PUMP TAG: DTWP-1

PUMP HP:

2

PUMP MFG: CENTURY

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: 5C-184-KMA

### HW PUMP

PUMP TAG: DTWP-2

PUMP HP:

2

PUMP MFG: CENTURY

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: 5C-184-KMA

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/CWW/AJN

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

**HW PUMP**

PUMP TAG:	DTWP-3	PUMP HP:	2	PUMP MFG:	CENTURY
PUMP SERVICE:	DUAL TEMP PUMP			PUMP MODEL:	5C-184-KMA

**HW PUMP**

PUMP TAG:	DTWP-4	PUMP HP:	3	PUMP MFG:	CENTURY
PUMP SERVICE:	DUAL TEMP PUMP			PUMP MODEL:	

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/CWW/AJN

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 7810	BLDG NAME: ENL BARRACKS W/O DIN
PER RAD (SYSTEM TAG) NO: RAD-1	RAD SYS LOCATION: VESTIBULES, TOILETS
SOURCE OF HEATING: BLR-1	SERVES AREA:
RADIATION UNIT TYPE: HW	% AREA HTG: 20

### RADIATION PUMP

PUMP TAG: 1	PUMP HP: 0.75	PUMP MFG: RELIANCE
		PUMP MODEL: 442775-GT

### SCHEDULE

DAYS SCHEDULE NO: 10	MONTHS SCHEDULE NO: 1																																								
SCHEDULE COMMENTS:																																									
<table><thead><tr><th></th><th>SUN:</th><th>MON:</th><th>TUE:</th><th>WED:</th><th>THUR:</th><th>FRI:</th><th>SAT:</th></tr></thead><tbody><tr><td>PRES START:</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>PRES STOP:</td><td>24</td><td>24</td><td>24</td><td>24</td><td>24</td><td>24</td><td>24</td></tr><tr><td>REQ START:</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>REQ STOP:</td><td>24</td><td>24</td><td>24</td><td>24</td><td>24</td><td>24</td><td>24</td></tr></tbody></table>			SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:	PRES START:	0	0	0	0	0	0	0	PRES STOP:	24	24	24	24	24	24	24	REQ START:	0	0	0	0	0	0	0	REQ STOP:	24	24	24	24	24	24	24
	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:																																		
PRES START:	0	0	0	0	0	0	0																																		
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REQ START:	0	0	0	0	0	0	0																																		
REQ STOP:	24	24	24	24	24	24	24																																		
MONTHS ON:	JAN: <input checked="" type="checkbox"/>	FEB: <input checked="" type="checkbox"/>	MAR: <input checked="" type="checkbox"/>	APR: <input checked="" type="checkbox"/>	MAY: <input type="checkbox"/>	JUN: <input type="checkbox"/>	JUL: <input type="checkbox"/>	AUG: <input type="checkbox"/>	SEP: <input type="checkbox"/>	OCT: <input checked="" type="checkbox"/>	NOV: <input checked="" type="checkbox"/>	DEC: <input checked="" type="checkbox"/>																													

### CONTROLS

TYPE OF RAD. CONTROLS:	
RADIATION CONTROL:	NONE
OCC HT SPACE SP:	0
UNOCC HT SPACE SP:	0
RESET CONTROL:	<input checked="" type="checkbox"/> N
CONTROL COMMENTS:	3 WAY PNEUMATIC CONTROL VALVE IM MER

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/CWW/AJN

**REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS**

BLDG NUMBER: 7810 BLDG NAME: ENL BARRACKS W/O DIN  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): MER  
AHU'S SERVED: AHU'S & FC'S  
UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

**NAMEPLATE**

CHILLER MFG:	TSI	TOWER MFG:	BOHN
CHILLER MODEL:	SC2CD70	# OF TOWER FANS:	4
CHILLER SERIAL NO:	9836-1	TOWER FAN V:	208
CHILLER V:	208	TOWER FAN AMPS:	7.2
CHILLER AMPS:	300	TOWER FAN HP:	1.5
CHILLER PH:	0		
CHILLER CAP (TONS):	70		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI: ☐ TEMP LITE HI: ☐ OTHER INDICATIONS:  
PRESS LITE LOW: ☐ TEMP LITE LOW: ☐  
PRESS GAUGES: ☐ TEMP GAUGES: ☐

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 1.5 PUMP MFG: AURORA  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7810

FILE: 7810.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	ALL					
AHU TYPE:	2P FC	MFG.:	TRANE	MODEL:				
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS: FILTERS ARE EXTREMELY DIRTY ON BOTH AHU'S								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS: N/A				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	NONE	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 8 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN  
FILE: 7810.XLS

FILE: 7810.XLS

CHILLER / EQUIP. NO.	CH-1	LOCATION (RM)	MER	
REFG. EQUIP. TYPE:	MFG.: TSI	MODEL:	SC2CD70	
C-WCT = Centrifugal w/ Water Side Cooling Tower	R-ACCU = Reciprocating w/ Air Cooled Condensing Unit			
R-WCT = Reciprocating w/ Water Side Cooling Tower	ASB-WCT = Absorption w/ Water Side Cooling Tower			
ACCU = Air Cooled Condensing Unit	CT = Cooling Tower			
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:
COMP. MOTOR	N/A: X	OK:	REPLACE:	SIZE:
COMP. MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A:	OK: X	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A:	OK: X	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A:	OK: X*	REPLACE:	SIZE:
COMMENTS:	*TYPICAL OF 6			
COOLING TOWER	N/A:	OK: X	REPLACE:	SIZE:
AIR COOLED COND.	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CHILLER INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CHW PIPE INSUL.	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 35' @ 6"
COMMENTS:				
CHW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7810

FILE: 7810.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1&2	LOCATION (RM)	MER
BOILER TYPE:	(1)=HW, (2)=STM	MFG.: OSAGE, OSAGE	MODEL: 3-5-508, 3-5-265
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: REPLACE:
COMMENTS:	PUMP #3 & 4 LOST THEIR SEALS, LEAKING		
	3-WAY VALVE BODY ABOVE PUMP #6 CORRODED		
	OTHER VALVES OK.		
BLR PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:	FIRE ALARM PANEL HAS AN ALARM SOUNDING		
BLR INSULATION	N/A:	OK:	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:	ALL PUMPS UNINSULATED. BOILERS OK.		
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:			
CV PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
CV PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A:	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: JM/AJN/CWW

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 7814

BLDG NAME: ENL BARRACKS W/O DIN

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 41,843

GAS METER: ☐ Y

SUSPECT ACM: ☐ N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

**REMARKS:**

ACM abatement has been completed.

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7814  
AHU NUMBER: AHU-1 AHU LOCATION: MER NORTH  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: HALLWAYS  
% OF BLDG AREA HEATED: 5

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,500 CFM-CLG: 3,500  
MIN %OA: 100 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: AIRTHERM UNIT MODEL: L0815  
SUPPLY FAN HP: 1 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: CENTURY RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 8-33-1260-03 RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP. WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: OTHER  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLs? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7814  
AHU NUMBER: AHU-2 AHU LOCATION: MER SOUTH  
REFRIG SYS # SRVNG AHU: CH-2 SERVES AREA: HALLWAYS  
% OF BLDG AREA HEATED: 5

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,500 CFM-CLG: 3,500  
MIN %OA: 100 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: AIRTHERM UNIT MODEL: L0815  
SUPPLY FAN HP: 1 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: CENTURY RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 8-331260-03 RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: OTHER  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☒ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/10/94

LOCATION: FT. RILEY, KS

PREPARED BY: JM/AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7814

AHU NUMBER: FC-1

AHU LOCATION: THROUGHOUT BLDG

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: ALL

% OF BLDG AREA HEATED: 70

AHU UNIT TYPE FAN COILS - 2 PIPE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 41,400

CFM-CLG: 41,400

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 7.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE:

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLs? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7814

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: ALL

**BOILER**

BOILER TAG: BLR-1

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS

☐ **CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 20

BOILER MFG: KEWANEE

UNIT MODEL: M-235-KX

BLR CAP OUTPUT (BTUH): 2,350,000

BLR CAP INPUT (BTUH): 2,938,000

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7814

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: DHW



**BOILER**

BOILER TAG: BLR-2  
BOILER TYPE: MED PRESS STEAM (15# TO 125#)  
FUEL TYPE: NAT. GAS



**CONVERTER**

CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_



**CENTRAL PLANT DIRECT**

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: OSAGE  
UNIT MODEL: 60-15

BLR CAP OUTPUT (BTUH): 1,939,200  
BLR CAP INPUT (BTUH): 2,424,000

COMMENTS: \_\_\_\_\_

#### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 10 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7814

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL

**BOILER**

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☐ **CONVERTER**

CONVERTER TAG: \_\_\_\_\_

CONVERTER TYPE: \_\_\_\_\_

CONV HT SOURCE: \_\_\_\_\_



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: \_\_\_\_\_

BOILER MFG: \_\_\_\_\_

UNIT MODEL: \_\_\_\_\_

COMMENTS: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): \_\_\_\_\_

BLR CAP INPUT (BTUH): \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: \_\_\_\_\_ DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: DTWP-1

PUMP HP: 2

PUMP MFG: CENTURY

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: 5C-184-KMA

**HW PUMP**

PUMP TAG: DTWP-2

PUMP HP: 2

PUMP MFG: CENTURY

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: 5C-184-KMA

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

**HW PUMP**

PUMP TAG:	DTWP-3	PUMP HP:	2	PUMP MFG:	CENTURY
PUMP SERVICE:	DUAL TEMP PUMP			PUMP MODEL:	5C-184-KMA

**HW PUMP**

PUMP TAG:	DTWP-4	PUMP HP:	3	PUMP MFG:	CENTURY
PUMP SERVICE:	DUAL TEMP PUMP			PUMP MODEL:	

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN/CWW

**PERIMETER RADIATION SURVEY OBSERVATIONS**

BLDG NUMBER: 7814	BLDG NAME: ENL BARRACKS W/O DIN
PER RAD (SYSTEM TAG) NO: RAD-1	RAD SYS LOCATION: VESTIBULES, TOILETS
SOURCE OF HEATING: BLR-1	SERVES AREA:
RADIATION UNIT TYPE: HW	% AREA HTG: 20

**RADIATION PUMP**

PUMP TAG: 1	PUMP HP: 0.75	PUMP MFG: RELIANCE
		PUMP MODEL: 442775-GT

**SCHEDULE**

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF RAD. CONTROLS:

RADIATION CONTROL: NONE

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: ☒ N

CONTROL COMMENTS: 3 WAY PNEUMATIC CONTROL VALVE IN MER

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN/CWW

**REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS**

BLDG NUMBER: 7814 BLDG NAME: ENL BARRACKS W/O DIN  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): MER  
AHU'S SERVED: AHU'S & FC'S  
UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

**NAMEPLATE**

CHILLER MFG:	TSI	TOWER MFG:	BOHN
CHILLER MODEL:	SC2CD70	# OF TOWER FANS:	4
CHILLER SERIAL NO:	9836-1	TOWER FAN V:	208
CHILLER V:	208	TOWER FAN AMPS:	7.2
CHILLER AMPS:	300	TOWER FAN HP:	1.5
CHILLER PH:	0		
CHILLER CAP (TONS):	70		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI: ☐ TEMP LITE HI: ☐ OTHER INDICATIONS:  
PRESS LITE LOW: ☐ TEMP LITE LOW: ☐  
PRESS GAUGES: ☐ TEMP GAUGES: ☐

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 1.5 PUMP MFG: AURORA  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
 CLIENT CONTRACT NO.: DACA 01-94-D-0033  
 LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7814

FILE: 7814.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	1ST FLOOR (NORTH)					
AHU TYPE:	SZ	MFG.:	TRANE	MODEL:	L10			
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT: *	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS: *LINKAGE IS DISCONNECTED FROM ACTUATOR								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	NONE	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7814

FILE: 7814.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	1ST FLOOR (SOUTH)					
AHU TYPE:	SZ	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	SAME AS AHU-1 EXCEPT LINKAGE IS CONNECTED TO ACTUATOR						DPR-ACT = Damper Actuator	
							RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK:	REPLACE:	COMMENTS:					
INLET VANES	N/A:	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS:					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:					
COMMENTS:								
COOLING COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:							RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 8 Nov-94  
PREPARED BY: AJN  
CHECKED BY: AJN  
FILE: 7814.XLS

FILE: 7814.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

8 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

BLDG:

7814

FILE: 7814.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1,2	LOCATION (RM)	MER	
BOILER TYPE:	1-HW, 2-STM	MFG.: OSAGE, OSAGE	MODEL: 3-5-508, 3-5-265	
CONVERTER TYPE:		MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter		
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK:	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS: PUMP #1 MISSING;				
PUMP #3 NEEDS PUMP SEALS				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS: ALL PUMPS UNINSULATED				
30' @ 3" INSULATION NEEDED				
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS: DOMESTIC HW CONVERTERS = OK				
REPLACE 8' OF 6" PIPE INSULATION				



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/13/94

PREPARED BY: AJN/CVWW

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 7050

BLDG NAME: ENL BARRACKS W/AS

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 39,675

GAS METER: ☐ N

SUSPECT ACM: ☐ Y

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 23

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEP, FEASABILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/13/94

LOCATION: FT. RILEY, KS

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7050

AHU NUMBER: AHU-1

AHU LOCATION: KITCHEN

REFRIG SYS # SRVNG AHU: CENTRAL PLANT

SERVES AREA: DINING HALL

% OF BLDG AREA HEATED: 6

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 7,330

CFM-CLG: 7,330

MIN %OA: 20

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 10

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: BALDOR

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 57

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 57

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLs? ☐MAX OA DMPR CONTROL: ☒ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☒ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7050  
AHU NUMBER: FC-1 AHU LOCATION: THROUGHOUT BLDG  
REFRIG SYS # SRVNG AHU: CENTRAL PLANT SERVES AREA: BARRACKS  
% OF BLDG AREA HEATED: 89

AHU UNIT TYPE FAN COILS - 2 PIPE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 37,200 CFM-CLG: 37,200  
MIN %OA: 0 MAX %OA: 0

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 7.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS: TOTAL FOR 93 FAN COILS

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7050  
AHU NUMBER: HV-1 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: N/A SERVES AREA: KITCHEN  
% OF BLDG AREA HEATED: 5

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,400  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 3 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7050

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: SPACE HEAT



#### BOILER

BOILER TAG: BLR-1  
BOILER TYPE: HW (UP TO 250 DEG)  
FUEL TYPE: NAT. GAS

#### CONVERTER

CONVERTER TAG:  
CONVERTER TYPE:  
CONV HT SOURCE:



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 8

BOILER MFG: KEWANEE  
UNIT MODEL: KW-40-192-G

BLR CAP OUTPUT (BTUH): 1,749,000  
BLR CAP INPUT (BTUH): 2,186,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 10  
SCHEDULE COMMENTS:

MONTH SECHDULE NO: 1

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC  
OPERATING SETPOINT: 185 DEG F or PSIG  
TYPE OF BURNER CONTROLS:  
CONTROLS COMMENTS:

RESET CONTROLS: N

### HW PUMP

PUMP TAG: 1 PUMP HP: 1.5  
PUMP SERVICE: HW PUMP

PUMP MFG:  
PUMP MODEL:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7050

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: SPACE HEAT



**BOILER**

BOILER TAG: BLR-2

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS

☐ **CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 8

BOILER MFG: KEWANEE

UNIT MODEL: KW-40-192-G

BLR CAP OUTPUT (BTUH): 1,749,000

BLR CAP INPUT (BTUH): 2,186,000

COMMENTS:

#### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 185 DEG F or PSIG

TYPE OF BURNER CONTROLS: ALL

CONTROLS COMMENTS:

#### HW PUMP

PUMP TAG: 1

PUMP HP: 1.5

PUMP MFG:

PUMP SERVICE: HW PUMP

PUMP MODEL:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7050

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: KITCHEN



**BOILER**

BOILER TAG: BLR-3  
BOILER TYPE: MED PRESS STEAM (15# TO 125#)  
FUEL TYPE: NAT. GAS



**CONVERTER**

CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_



CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: KEWANEE

UNIT MODEL: KS-40-166-G

BLR CAP OUTPUT (BTUH): 1,204,800

BLR CAP INPUT (BTUH): 1,506,000

COMMENTS: \_\_\_\_\_

#### SCHEDULE

DAYS SCHEDULE NO: 23

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7050

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: KITCHEN



☐ BOILER

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☒ CONVERTER

CONVERTER TAG: CV-1

CONVERTER TYPE: STM TO HTHW

CONV HT SOURCE: BLR-3



CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: \_\_\_\_\_

UNIT MODEL: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 900,000

BLR CAP INPUT (BTUH): 0

COMMENTS: \_\_\_\_\_

#### SCHEDULE

DAYS SCHEDULE NO: 23

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: \_\_\_\_\_

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

RESET CONTROLS: ☒ N



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7050

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: OTHER

☐ BOILER

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☐ CONVERTER

CONVERTER TAG: \_\_\_\_\_

CONVERTER TYPE: \_\_\_\_\_

CONV HT SOURCE: BLR-1 &amp; BLR-2



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: \_\_\_\_\_

UNIT MODEL: \_\_\_\_\_

COMMENTS: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 0

BLR CAP INPUT (BTUH): 0

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: DTWP-1

PUMP HP: 2

PUMP MFG: UNIMOUNT 1;25

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: F040 TYPE: UT

**HW PUMP**

PUMP TAG: DTWP-2

PUMP HP: 2

PUMP MFG: UNIMOUNT 1;25

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: F040 TYPE: UT

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CVWW

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7050

BOILER RM LOCATION: DHW

### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒ **BOILER**  
BOILER TAG: BLR-4  
BOILER TYPE: \_\_\_\_\_  
FUEL TYPE: NAT. GAS

☐ **CONVERTER**  
CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_

☐ CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: \_\_\_\_\_

BOILER MFG: TELEDYNE  
UNIT MODEL: PW1200IN09CIA

BLR CAP OUTPUT (BTUH): 972,000  
BLR CAP INPUT (BTUH): 1,200,000

COMMENTS: \_\_\_\_\_

### SCHEDULE

DAYS SCHEDULE NO: 10 MONTH SECHDULE NO: 3  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC  
OPERATING SETPOINT: \_\_\_\_\_ DEG F or PSIG  
TYPE OF BURNER CONTROLS: \_\_\_\_\_  
RESET CONTROLS: N  
CONTROLS COMMENTS: \_\_\_\_\_

### HW PUMP

PUMP TAG: DHW-1 PUMP HP: 0.167 PUMP MFG: MARATHON ELECTRIC  
PUMP SERVICE: DHW PUMP MODEL: \_\_\_\_\_

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 7050 BLDG NAME: ENL BARRACKS W/AS  
PER RAD (SYSTEM TAG) NO: RAD-1 RAD SYS LOCATION: VESTIBULES, LATRINES  
SOURCE OF HEATING: SERVES AREA:  
RADIATION UNIT TYPE: HW % AREA HTG: 8

### RADIATION PUMP

PUMP TAG: 1 PUMP HP: 0.75 PUMP MFG: UNIMOUNT  
PUMP MODEL: F012A TYPE UT

### SCHEDULE

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS:

RADIATION CONTROL: NONE

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: ☒

CONTROL COMMENTS: 3 WAY VALVE IN MER

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7050

FILE: 7050.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	KITCHEN					
AHU TYPE:	SZ	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

BLDG: 7050

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

FILE: 7050.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	THROUGHOUT BUILDING					
AHU TYPE:	FC 2D	MFG.:				MODEL:		
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	3 SPEED FAN CONTROL						DPR-ACT = Damper Actuator	
	PERIMETER RADIATION IN EACH ROOM						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS: N/A				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:							RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7050

FILE: 7050.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	HV-1	LOCATION (Rm)	MER (SERVES KITCHEN AREA)					
AHU TYPE:	H & V	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:		15' OFF OF MER FLOOR					DPR-ACT = Damper Actuator	
							RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK:	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS: OLD ~ 3HP				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:		RP-ACT = Replace Actuator						
		RP-BD = Replace Body						
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:		10' @ 3-1/2"		
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7050

FILE: 7050.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR 1-4	LOCATION (RM)	MER
BOILER TYPE:	HW & STM	MFG.: KEWANEE	MODEL:
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X REPLACE:
COMMENTS: GOOD CONDITION - NEW BOILERS			
BLR PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE:
BLR PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
COMMENTS:			
HW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			





## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 7053

BLDG NAME: ENL BARRACKS W/AS

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 39,675

GAS METER: ☐ N

SUSPECT ACM: ☐ N

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

### REMARKS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7053

AHU NUMBER: FC-1

AHU LOCATION: THROUGHOUT BLDG

REFRIG SYS # SRVNG AHU: CENTRAL PLANT

SERVES AREA: BARRACKS

% OF BLDG AREA HEATED: 92

AHU UNIT TYPE FAN COILS - 2 PIPE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 37,200

MIN %OA: 0

CFM-CLG: 37,200

MAX %OA: 0

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 7.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS: TOTAL FOR FAN COILS

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7053

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

**BOILER**

BOILER TAG: BLR-1  
BOILER TYPE: HW (UP TO 250 DEG)  
FUEL TYPE: NAT. GAS

**CONVERTER**

CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 8

BOILER MFG: KEWANEE

UNIT MODEL: KW-40-192-G

BLR CAP OUTPUT (BTUH): 1,749,000

BLR CAP INPUT (BTUH): 2,186,000

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 185 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: 1

PUMP HP: 1.5

PUMP MFG: \_\_\_\_\_

PUMP SERVICE: HW PUMP

PUMP MODEL: \_\_\_\_\_

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7053

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL \_\_\_\_\_

☒ **BOILER**  
BOILER TAG: BLR-2  
BOILER TYPE: HW (UP TO 250 DEG)  
FUEL TYPE: NAT. GAS

☐ **CONVERTER**  
CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_

☐ **CENTRAL PLANT DIRECT**

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 8

BOILER MFG: KEWANEE  
UNIT MODEL: KW-40-192-G

BLR CAP OUTPUT (BTUH): 1,749,000  
BLR CAP INPUT (BTUH): 2,186,000

COMMENTS: \_\_\_\_\_

#### SCHEDULE

DAYS SCHEDULE NO: 10 MONTH SECHDULE NO: 1  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC  
OPERATING SETPOINT: 185 DEG F or PSIG  
TYPE OF BURNER CONTROLS: \_\_\_\_\_  
RESET CONTROLS: N  
CONTROLS COMMENTS: \_\_\_\_\_

#### HW PUMP

PUMP TAG: 1 PUMP HP: 1.5 PUMP MFG: \_\_\_\_\_  
PUMP SERVICE: HW PUMP PUMP MODEL: \_\_\_\_\_

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7053

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE:



☐ BOILER

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☐ CONVERTER

CONVERTER TAG: \_\_\_\_\_

CONVERTER TYPE: \_\_\_\_\_

CONV HT SOURCE: BLR-1, BLR-2



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: \_\_\_\_\_

UNIT MODEL: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 0

BLR CAP INPUT (BTUH): 0

COMMENTS: \_\_\_\_\_

### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

### HW PUMP

PUMP TAG: DTWP-1

PUMP HP: 2

PUMP MFG: UNIMOUNT 1;25

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: F040 TYPE: UT

### HW PUMP

PUMP TAG: DTWP-2

PUMP HP: 2

PUMP MFG: UNIMOUNT 1;25

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: F040 TYPE: UT

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7053

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT: ☒ BOILER ☐ CONVERTER ☐ CENTRAL PLANT DIRECT

BLR/CONVERTER SERVES AREA OR SERVICE: DHW

BOILER TAG: BLR-3  
BOILER TYPE:  
FUEL TYPE: NAT. GAS

CONVERTER TAG:  
CONVERTER TYPE:  
CONV HT SOURCE:

#### NAMEPLATE

% AREA HEATED BY BB RADIATION:

BOILER MFG: TELEDYNE LAARS  
UNIT MODEL: PW075 IN09CIA

BLR CAP OUTPUT (BTUH): 579,150  
BLR CAP INPUT (BTUH):

COMMENTS:

#### SCHEDULE

DAYS SCHEDULE NO: 10 MONTH SECHDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC  
OPERATING SETPOINT: DEG F or PSIG  
TYPE OF BURNER CONTROLS:  
RESET CONTROLS: N  
CONTROLS COMMENTS:

#### HW PUMP

PUMP TAG: DHW-1 PUMP HP: 0.17 PUMP MFG: MARATHON  
PUMP SERVICE: DHW PUMP MODEL:

#### HW PUMP

PUMP TAG: DTWP-2 PUMP HP: 0.33 PUMP MFG: BOILER PUMP  
PUMP SERVICE: DUAL TEMP PUMP PUMP MODEL:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 7053 BLDG NAME: ENL BARRACKS W/AS  
PER RAD (SYSTEM TAG) NO: RAD-1 RAD SYS LOCATION: VESTIBULES/LATRINES  
SOURCE OF HEATING: SERVES AREA:  
RADIATION UNIT TYPE: HW % AREA HTG: 8

### RADIATION PUMP

PUMP TAG: 1 PUMP HP: 0.75 PUMP MFG: UNIMOUNT  
PUMP MODEL: F012A TYPE: UT

### SCHEDULE

DAYS SCHEDULE NO: 10 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS:  
RADIATION CONTROL: NONE  
OCC HT SPACE SP: 0  
UNOCC HT SPACE SP: 0  
RESET CONTROL: N  
CONTROL COMMENTS: 3 WAY VALVE IN MER

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7053

FILE: 7053.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	THROUGHOUT BUILDING				
AHU TYPE:	FC 2P	MFG.:	MODEL:				
SZ - Single Zone	H&V - Heating & Vntltn.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:	3 SPEED FAN CONTROL. PERIMETER RADIATION IN EACH ROOM						DPR-ACT = Damper Actuator
							RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A	
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:		N/A	
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:							RP-ACT = Replace Actuator
							RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7053

FILE: 7053.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1,3	LOCATION (RM)	MER	
BOILER TYPE:	HW	MFG.:	KEWANEE	MODEL:
CONVERTER TYPE:		MFG.:		MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:	GOOD CONDITION - NEW			
BLR PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
BLR PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: JM/AJN

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 8002

BLDG NAME: ENL BARRACKS W/O DIN

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 22,700

GAS METER: ☐ NSUSPECT ACM: ☐ N**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8002  
AHU NUMBER: FC-1 AHU LOCATION: THROUGHOUT  
REFRIG SYS # SRVNG AHU: CV-1 SERVES AREA: ALL  
% OF BLDG AREA HEATED: 100

AHU UNIT TYPE FAN COILS - 2 PIPE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 28,800 CFM-CLG: 28,800  
MIN %OA: 0 MAX %OA: 0

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS: TOTAL FOR 72 FAN COILS

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLs? N  
MAX OA DMPR CONTROL: N ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 8002

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☐

☐ BOILER

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☒ CONVERTER

CONVERTER TAG: CV-1

CONVERTER TYPE: STM TO HW

CONV HT SOURCE: CENTRAL PLANT

☒

CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: \_\_\_\_\_

UNIT MODEL: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 650,000

BLR CAP INPUT (BTUH): 0

COMMENTS: \_\_\_\_\_

#### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

#### HW PUMP

PUMP TAG: DTWP-1

PUMP HP: 5

PUMP MFG: U.S. ELECTRIC

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: F8074-01239L154R033

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 8002

FILE: 8002.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	ALL				
AHU TYPE:	FC 2P	MFG.:	MODEL:				
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A				
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:* RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS: *SEVERAL ARE LEAKY OR INOPERABLE							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 8002

FILE: 8002.XLS

BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS				
BOILER/CONVERTER NO. CV-1		LOCATION (RM)		MER
BOILER TYPE:		MFG.:		MODEL:
CONVERTER TYPE: STM/HW		MFG.:		MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTO	N/A:	OK: X	REPLACE:	SIZE: UNIMOUNT, 5 HP
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTO	N/A: X	OK:	REPLACE:	SIZE: 1/3 HP
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTO	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTO	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS: CONTROL VALVES OK.				
OVERALL CONDITION, SAME AS OTHER BARRICKS IN AREA.				
CV PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: ~ 1/3 HP FOR DOMESTIC HW/CONV.
CV PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				





**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM/AJN

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 8012

BLDG NAME: ENL BARRACKS W/O DIN

ELECTRIC METER: ☒ Y

CONDITIONED SQFT: 22,700

GAS METER: ☐ NSUSPECT ACM: ☐ N**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

**REMARKS:**

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM/AJN

## AIR HANDLING UNIT SURVEY OBSERVATIONS

BUILDING NUMBER: 8012  
AHU NUMBER: FC-1  
AHU LOCATION: THROUGHOUT BLDG  
REFRIG SYS # SRVNG AHU: CV-1  
SERVES AREA: ALL  
% OF BLDG AREA HEATED: 100

AHU UNIT TYPE FAN COILS - 2 PIPE  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 28,800  
MIN %OA: 0  
CFM-CLG: 28,800  
MAX %OA: 0

## NAMEPLATE

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS: TOTAL FOR 72 FAN COILS

## COILS

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

## SCHEDULE

DAY SCHEDULE NO: 10  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: N  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JM/AJN

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 8012

BOILER RM LOCATION: MER

**BOILER UNIT**

BLR/CONVERTER SERVES AREA OR SERVICE: ALL

SOURCE OF BLDG HEAT

☐☐ BOILER

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☒ CONVERTER

CONVERTER TAG: CV-1

CONVERTER TYPE: STM TO HW

CONV HT SOURCE: CENTRAL PLANT

☒

CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 650,000

UNIT MODEL: \_\_\_\_\_

BLR CAP INPUT (BTUH): 0

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: DTWP-1

PUMP HP: 3

PUMP MFG: GOULD

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: \_\_\_\_\_

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

11 Nov-94

PREPARED BY:

AJN

CHECKED BY:

AJN

BLDG:

**8012**

FILE:

8012.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	ALL					
AHU TYPE:	FC 2P	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A		
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:		N/A		
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:*	RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS: *SEVERAL ARE LEAKY OR INOPERABLE								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 8012

FILE: 8012.XLS

BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS				
BOILER/CONVERTER NO.	CV-1	LOCATION (RM)	MER	
BOILER TYPE:		MFG.:	MODEL:	
CONVERTER TYPE:	STM/HW	MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:	10" X 4.5' LONG			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: CENTURY 1 HP
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE: NOT BOLTED DOWN WITH WIRES
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE: EXPOSED
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:	DOMESTIC HW CONVERTER TANK REPLACED WITH UNINSULATED CONVERTER			
FLOW-RITE-TEMP MODEL 665				
CV INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: JM/AJN

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 8014

BLDG NAME: ENL BARRACKS W/O DIN

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 11,549

GAS METER: ☐ Y

SUSPECT ACM: ☐ N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8014

AHU NUMBER: FC-1

AHU LOCATION: THROUGHOUT BLDG.

REFRIG SYS # SRVNG AHU: CV-1

SERVES AREA: ALL

% OF BLDG AREA HEATED: 100

AHU UNIT TYPE FAN COILS - 2 PIPE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 14,400

CFM-CLG: 14,400

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 3

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLS? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 8014

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: ALL



☐ BOILER

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☒ CONVERTER

CONVERTER TAG: CV-1

CONVERTER TYPE: STM TO HW

CONV HT SOURCE: CENTRAL PLANT



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: \_\_\_\_\_

UNIT MODEL: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 325,000

BLR CAP INPUT (BTUH): 0

COMMENTS: \_\_\_\_\_

### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

### HW PUMP

PUMP TAG: DTWP-1

PUMP HP: 1.5

PUMP MFG: \_\_\_\_\_

PUMP SERVICE: HW PUMP

PUMP MODEL: \_\_\_\_\_

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

11 Nov-94

PREPARED BY:

AJN

CHECKED BY:

AJN

BLDG:

8014

FILE:

8014.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	ALL					
AHU TYPE:	FC 2P	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP- ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A		
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:		N/A		
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:*	RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS: *SEVERAL ARE LEAKY OR INOPERABLE								
RP- ACT = Replace Actuator								
RP- BD = Replace Body								
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 8014

FILE: 8014.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-1	LOCATION (RM)	MER	
BOILER TYPE:	MFG.:		MODEL:	
CONVERTER TYPE:	STM/HW	MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor		
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: 1.5 HP MARATHON
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS: VALVES FAIR				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS: CONVERTER SIZE = 8" X 4.5'				
OLD DOMINION SERIAL #HE-2081-M2				
CV INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: JM/AJN

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 8038

BLDG NAME: ENL BARRACKS W/O DIN

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 22,700

GAS METER: ☐ N

SUSPECT ACM: ☐ N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8038  
AHU NUMBER: FC-1  
AHU LOCATION: THROUGHOUT BLDG  
REFRIG SYS # SRVNG AHU: CV-1  
SERVES AREA: ALL  
% OF BLDG AREA HEATED: 100

AHU UNIT TYPE FAN COILS - 2 PIPE  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 28,800  
MIN %OA: 0  
CFM-CLG: 28,800  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG: \_\_\_\_\_ UNIT MODEL: \_\_\_\_\_  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: \_\_\_\_\_ RET/EXH FAN MTR MFG: \_\_\_\_\_  
SUPPLY FAN MTR MODEL: \_\_\_\_\_ RET/EXH FAN MTR MODEL: \_\_\_\_\_  
COMMENTS: TOTAL FOR 72 FAN COILS

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10  
MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP: \_\_\_\_\_  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: N  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 8038

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☐☐ BOILER

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☒ CONVERTER

CONVERTER TAG: CV-1

CONVERTER TYPE: STM TO HW

CONV HT SOURCE: CENTRAL PLANT

☒

CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: \_\_\_\_\_

UNIT MODEL: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 650,000

BLR CAP INPUT (BTUH): 0

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: DTWP-1

PUMP HP: 5

PUMP MFG: US ELECTRIC

PUMP SERVICE: HW PUMP

PUMP MODEL: F8074-01239L154R033

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
 CLIENT CONTRACT NO.: DACA 01-94-D-0033  
 LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 8038

FILE: 8038.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	ALL					
AHU TYPE:	FC 2P	MFG.:				MODEL:		
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								DPR-ACT = Damper Actuator
								RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:*	RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS: *SEVERAL ARE LEAKY OR INOPERABLE								RP-ACT = Replace Actuator
								RP-BD = Replace Body
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

7 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

BLDG:

8038

FILE:

8038.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-1	LOCATION (RM)	MER	
BOILER TYPE:		MFG.:	MODEL:	
CONVERTER TYPE:	STM/HW	MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter		
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:	LIKE 8052			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:	B & G, 5 HP DUAL TEMP PUMP.			
CWS & CWR NEW INSULATION ~ 10' @ 4"				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:	CONTROL VALVES OK. PIPING ON CONVERTER SEVERELY CORRODED.			
CV PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
CV PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 8040

BLDG NAME: ENL BARRACKS W/O DIN

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 11,549

GAS METER: ☐ N

SUSPECT ACM: ☐ N

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 0

### REMARKS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8040

AHU NUMBER: FC-1

AHU LOCATION: THROUGHOUT BLDG

REFRIG SYS # SRVNG AHU: CV-1

SERVES AREA: ALL

% OF BLDG AREA HEATED: 100

AHU UNIT TYPE FAN COILS - 2 PIPE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 14,400

CFM-CLG: 14,400

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 3

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLs? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 8040

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☐ ☐ BOILER  
BOILER TAG: \_\_\_\_\_  
BOILER TYPE: \_\_\_\_\_  
FUEL TYPE: \_\_\_\_\_

☒ CONVERTER  
CONVERTER TAG: CV-1  
CONVERTER TYPE: STM TO HW  
CONV HT SOURCE: STEAM FROM CENTRAL PLANT

☒ CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: \_\_\_\_\_  
UNIT MODEL: \_\_\_\_\_  
COMMENTS: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 325,000  
BLR CAP INPUT (BTUH): 0

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC  
OPERATING SETPOINT: 0 DEG F or PSIG  
TYPE OF BURNER CONTROLS: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_

RESET CONTROLS: N

**HW PUMP**

PUMP TAG: DTWP-1 PUMP HP: 1.5  
PUMP SERVICE: DUAL TEMP PUMP

PUMP MFG: \_\_\_\_\_  
PUMP MODEL: \_\_\_\_\_

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 8040

FILE: 8040.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	ALL					
AHU TYPE:	FC 2P	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:*	RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS: *SEVERAL ARE LEAKY OR INOPERABLE								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

7 Nov-94

PREPARED BY:

AJN

CHECKED BY:

AJN

BLDG:

8040

FILE:

8040.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-1	LOCATION (RM)	MER	
BOILER TYPE:		MFG.:	MODEL:	
CONVERTER TYPE:	STM/HW	MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter		
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:	LIKE 8048			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:	CONTROL VALVES OK. DUAL TEMP = CENTURY 2 HP.			
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:	NO INSULATION ON PUMP			





**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: AJN/JM

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 8042

BLDG NAME: ENL BARRACKS W/O DIN

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 22,700

GAS METER: ☐ N

SUSPECT ACM: ☐ N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: AJN/JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8042

AHU NUMBER: FC-1

AHU LOCATION: THROUGHOUT BLDG

REFRIG SYS # SRVNG AHU: CV-1

SERVES AREA: ALL

% OF BLDG AREA HEATED: 100

AHU UNIT TYPE FAN COILS - 2 PIPE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 28,800

CFM-CLG: 28,800

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/JM

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 8042

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☐ BOILER

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☒ CONVERTER

CONVERTER TAG: CV-1

CONVERTER TYPE: STM TO HW

CONV HT SOURCE: CENTRAL PLANT



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: \_\_\_\_\_

UNIT MODEL: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 650,000

BLR CAP INPUT (BTUH): 0

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: DTWP-1

PUMP HP: 5

PUMP MFG: US ELECTRIC

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: F8074-01239L154R033

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 8042

FILE: 8042.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	ALL					
AHU TYPE:	FC 2P	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	3-WAY VALVES ON FC'S IN HALLWAYS & DAYROOMS. 2 FC'S						DPR-ACT = Damper Actuator	
	PER HALLWAY; 2 FC'S PER DAYROOM						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	NONE	RP- ACT:	RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:	DUAL TEMP. MANUAL BALANCING VALVES (NO CONTROL VALVES)						RP-ACT = Replace Actuator	
	IN ROOMS. 3-SPEED FAN CONTROL FOR ALL ROOMS. TYPICAL FOR						RP-BD = Replace Body	
	BLDGS. IN THIS AREA. FANS DO NOT SHUT-OFF AFTER ROOMS							
	REACH DESIRED TEMPERATURE.							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 8042

FILE: 8042.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-1	LOCATION (RM)	MER	
BOILER TYPE:		MFG.:	MODEL:	
CONVERTER TYPE:	STM/HW	MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter		
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS: DUAL TEMP PUMP - BALDOR, 5 HP.				
CONTROL VALVES - OK				
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: 5 HP BALDOR
CV PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS: OUTSIDE AIR SENSOR				
CV INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY: FAIR
CV PIPE INSUL.	N/A:	OK:	MISSING:	ESTIMATED QUANTITY: FAIR
COMMENTS:				



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 8048 BLDG NAME: ENL BARRACKS W/O DIN  
ELECTRIC METER: ☐ N ☐ N  
GAS METER: ☐ N  
SUSPECT ACM: ☐ N  
CONDITIONED SQFT: 11,549

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRES STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
REQ START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
REQ STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>

**REMARKS:**

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

## AIR HANDLING UNIT SURVEY OBSERVATIONS

BUILDING NUMBER: 8048

AHU NUMBER: FC-1

AHU LOCATION: THROUGHOUT BLDG

REFRIG SYS # SRVNG AHU: CV-1

SERVES AREA: ALL

% OF BLDG AREA HEATED: 100

AHU UNIT TYPE FAN COILS - 2 PIPE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 14,400

CFM-CLG: 14,400

MIN %OA: 0

MAX %OA: 0

## NAMEPLATE

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 3

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

## COILS

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

## SCHEDULE

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 8048

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☐ BOILER

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☒ CONVERTER

CONVERTER TAG: CV-1

CONVERTER TYPE: STM TO HW

CONV HT SOURCE: CENTRAL PLANT



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: \_\_\_\_\_

UNIT MODEL: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 325,000

BLR CAP INPUT (BTUH): 0

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: DTWP-1

PUMP HP: 1.5

PUMP MFG: \_\_\_\_\_

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: \_\_\_\_\_

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

7 Nov-94

PREPARED BY:

AJN

CHECKED BY:

AJN

BLDG:

8048

FILE:

8048.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	ALL					
AHU TYPE:	FC 2P	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	N/A: X						DPR-ACT = Damper Actuator	
	N/A: X						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:	N/A: X							
SUPPLY AIR FAN	N/A: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	N/A: X	REPLACE:	COMMENTS: N/A					
COMMENTS:	N/A: X							
	N/A: X							
	N/A: X							
COOLING COIL	N/A: X	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:* RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:	*SEVERAL ARE LEAKY OR INOPERABLE						RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 8048

FILE: 8048.XLS

BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS				
BOILER/CONVERTER NO.	CV-1	LOCATION (RM)	MER	
BOILER TYPE:		MFG.: OLD DOMINION IRON	MODEL:	HE-2081-M1
CONVERTER TYPE:	STMHW	MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:	8' X 45' LONG			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: 1-1/2 HP MARATHON ELECTRIC
CV PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 8050 BLDG NAME: ENL BARRACKS W/O DIN

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 11,549

GAS METER: ☐ N

SUSPECT ACM: ☐ N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/11/94

LOCATION: FT. RILEY, KS

PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8050

AHU NUMBER: FC-1

AHU LOCATION: THROUGHOUT BLDG

REFRIG SYS # SRVNG AHU: CV-1

SERVES AREA: ALL

% OF BLDG AREA HEATED: 100

AHU UNIT TYPE FAN COILS - 2 PIPE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 14,400

CFM-CLG: 14,400

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 3

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 8050

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☐

☐ BOILER

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☒ CONVERTER

CONVERTER TAG: CV-1

CONVERTER TYPE: STM TO HW

CONV HT SOURCE: CENTRAL PLANT

☒

CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: \_\_\_\_\_

UNIT MODEL: \_\_\_\_\_

COMMENTS: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 325,000

BLR CAP INPUT (BTUH): 0

#### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

#### HW PUMP

PUMP TAG: DTWP-1

PUMP HP: 1.5

PUMP MFG: \_\_\_\_\_

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: \_\_\_\_\_

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

7 Nov-94

PREPARED BY:

AJN

CHECKED BY:

AJN

BLDG:

8050

FILE:

8050.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	ALL					
AHU TYPE:	FC 2P	MFG.:				MODEL:		
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A		
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:		N/A		
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:*	RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS: *SEVERAL ARE LEAKY OR INOPERABLE								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

4 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

BLDG:

8050

FILE: 8050.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-1	LOCATION (RM)	MER
BOILER TYPE:	MFG.:	MODEL:	
CONVERTER TYPE:	STM/HW	MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK: REPLACE:
COMMENTS:			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS: STEAM CONTROL VALVE OK			
CV PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE: 1.5 CENTURY
CV PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS: CWS MISSING ~ 10' OF 4" INSULATION			
CV INSULATION	N/A:	OK:	MISSING: X ESTIMATED QUANTITY: 8"x2'
CV PIPE INSUL.	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
COMMENTS:			



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 8052

BLDG NAME: SR ENL QTRS

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 22,700

GAS METER: ☐ NSUSPECT ACM: ☐ N**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 10

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8052  
AHU NUMBER: FC-1  
AHU LOCATION: THROUGHOUT BLDG  
REFRIG SYS # SRVNG AHU: CV-1  
SERVES AREA: ALL  
% OF BLDG AREA HEATED: 100

AHU UNIT TYPE FAN COILS - 2 PIPE  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 28,800  
MIN %OA: 0  
CFM-CLG: 28,800  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG: \_\_\_\_\_ UNIT MODEL: \_\_\_\_\_  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: \_\_\_\_\_ RET/EXH FAN MTR MFG: \_\_\_\_\_  
SUPPLY FAN MTR MODEL: \_\_\_\_\_ RET/EXH FAN MTR MODEL: \_\_\_\_\_  
COMMENTS: TOTAL FOR 72 FAN COILS

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	DUAL TEMP WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 10  
MONTH SCHEDULE NO: 3

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP: \_\_\_\_\_  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: N  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: JM/AJN

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 8052

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☐☐ BOILER

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☒ CONVERTER

CONVERTER TAG: CV-1

CONVERTER TYPE: STM TO HW

CONV HT SOURCE: CENTRAL PLANT

☒

CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 0

UNIT MODEL: \_\_\_\_\_

BLR CAP INPUT (BTUH): 0

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: DTWP-1

PUMP HP: 5

PUMP MFG: US ELECTRIC

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: F8074-01239L14R033

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 8052

FILE: 8052.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	ALL					
AHU TYPE:	FC 2P	MFG.:				MODEL:		
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A		
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:		N/A		
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT:*	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT:	
COMMENTS: *SEVERAL ARE LEAKY OR INOPERABLE								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

7 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

BLDG:

8052

FILE:

8052.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-1	LOCATION (RM)	MER
BOILER TYPE:		MFG.:	MODEL:
CONVERTER TYPE:	STM/HW	MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK: REPLACE:
COMMENTS:	CONV = 10" X 69"		
BLR PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE: CENTURY 5 HP/DUAL TEMP.
CV PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
COMMENTS:	NEED ~ 30' OF 4" INSULATION ON CW AND CWR LINES		
CV INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
COMMENTS:	CW CONTROL VALVE OK		
	STEAM CONTROL VALVE OK		
	DUAL TEMP. CHANGEOVER VALVE		





**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/CWW/AJN

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 7806 BLDG NAME: BN HQ BLDG  
ELECTRIC METER: ☐ N ☒ Y  
GAS METER: ☐ N ☒ Y  
SUSPECT ACM: ☐ N ☒ Y  
CONDITIONED SQFT: 13,493

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 25

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRES STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
REQ START:	<u>0</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>0</u>
REQ STOP:	<u>0</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>0</u>

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/10/94

LOCATION: FT. RILEY, KS

PREPARED BY: JM/CVWW/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7806

AHU NUMBER: AHU-1

AHU LOCATION: MEZZ

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: ADMINISTRATIVE

% OF BLDG AREA HEATED: 32

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 6,400

CFM-CLG: 6,400

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG: TRANE CLIMATE CHANGER

UNIT MODEL: L-14

SUPPLY FAN HP: 3

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON ELEC

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 7D182TTFS7028A

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 25

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	20	20	20	20	20	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 90

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRL? Y

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: JM/CWW/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7806  
AHU NUMBER: AHU-2 AHU LOCATION: MEZZ  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: ADMINISTRATIVE  
% OF BLDG AREA HEATED: 32

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 6,600  
MIN %OA: 0

CFM-CLG: 6,600  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG: TRANE CIMATE CHANGER UNIT MODEL: L-14  
SUPPLY FAN HP: 3 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: MARATHON RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 7E182TFS7028A RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 25 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	20	20	20	20	20	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 90 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLS? Y  
MAX OA DMPR CONTROL: N ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/CWW/AJN

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7806

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒ ☒ **BOILER** ☐ **CONVERTER**

BOILER TAG: BLR-1 CONVERTER TAG: \_\_\_\_\_

BOILER TYPE: MED PRESS STEAM (15# TO 125#) CONVERTER TYPE: \_\_\_\_\_

FUEL TYPE: NAT. GAS CONV HT SOURCE: \_\_\_\_\_

☐ CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 36

BOILER MFG: OSAGE

BLR CAP OUTPUT (BTUH): 818,400

UNIT MODEL: 3-5-1023

BLR CAP INPUT (BTUH): 1,023,000

COMMENTS: \_\_\_\_\_

#### SCHEDULE

DAYS SCHEDULE NO: 25 MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	20	20	20	20	20	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC RESET CONTROLS: Y

OPERATING SETPOINT: 7.5 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/CWW/AJN

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7806

BOILER RM LOCATION: MEZZ

**BOILER UNIT**

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☐ ☐ **BOILER**  
BOILER TAG: \_\_\_\_\_  
BOILER TYPE: \_\_\_\_\_  
FUEL TYPE: \_\_\_\_\_

☒ **CONVERTER**  
CONVERTER TAG: CV-1  
CONVERTER TYPE: STM TO HW  
CONV HT SOURCE: BLR-1

☐ **CENTRAL PLANT DIRECT**

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 36

BOILER MFG: BUNHAM/BUSH  
UNIT MODEL: SCA-63-2-1

BLR CAP OUTPUT (BTUH): 0  
BLR CAP INPUT (BTUH): 0

COMMENTS: Year built: May 1969

**SCHEDULE**

DAYS SCHEDULE NO: 25 MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	20	20	20	20	20	0

MONTHS ON: JAN: ☒ FEB: ☒ MAR: ☒ APR: ☒ MAY: ☐ JUN: ☐ JUL: ☐ AUG: ☐ SEP: ☐ OCT: ☒ NOV: ☒ DEC: ☒

**CONTROLS**

TYPE OF BLR CONTROLS: PNEUMATIC RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: 2-Way control valve

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/CWW/AJN

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 7806 BLDG NAME: BN HQ BLDG  
PER RAD (SYSTEM TAG) NO: RAD-1 RAD SYS LOCATION: BLDG PERIMETER  
SOURCE OF HEATING: BLR-1 SERVES AREA: ALL  
RADIATION UNIT TYPE: HW % AREA HTG: 36

### RADIATION PUMP

PUMP TAG: HP-1 PUMP HP: 0.75 PUMP MFG: BALDOR  
PUMP MODEL:

### SCHEDULE

DAYS SCHEDULE NO: 25 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	20	20	20	20	20	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS: PNEUMATIC

RADIATION CONTROL: 3-WAY VALVE HW RESET

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: N

CONTROL COMMENTS: Perimeter radiation under windows with manual control valves

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/CWW/AJN

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 7806 BLDG NAME: BN HQ BLDG  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): MER  
AHU'S SERVED: AHU-1, AHU-2  
UNIT TYPE: RECIPROCATING WITH AIR COOLED CONDENSING UNIT

**NAMEPLATE**

CHILLER MFG:	TSI	TOWER MFG:	TSI
CHILLER MODEL:	SC2CD70	# OF TOWER FANS:	6
CHILLER SERIAL NO:	9836-3	TOWER FAN V:	0
CHILLER V:	0	TOWER FAN AMPS:	0
CHILLER AMPS:	270	TOWER FAN HP:	1
CHILLER PH:	0		
CHILLER CAP (TONS):	73.8		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 25 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	20	20	20	20	20	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI: ☐ TEMP LITE HI: ☐ OTHER INDICATIONS:  
PRESS LITE LOW: ☐ TEMP LITE LOW: ☐  
PRESS GAUGES: ☐ TEMP GAUGES: ☐

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 5 PUMP MFG: CENTURY  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL: 6-322801-01

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7806

FILE: 7806.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MEZZANINE					
AHU TYPE:	SZ	MFG.:	TRANE	MODEL:				
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:		LINKED OA AND RA				DPR-ACT = Damper Actuator		
						RP-ACT = Replace Actuator		
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS: 3 HP				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:		RP-ACT = Replace Actuator						
		RP-BD = Replace Body						
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:		MAU-1 HAS BEEN DISCONNECTED						



**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7806

FILE: 7806.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	MEZZANINE					
AHU TYPE:	SZ	MFG.:	TRANE	MODEL:	L-14			
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	3 HP MOTOR; DAMPERS ARE INTERLOCKED.						DPR-ACT = Damper Actuator	
	MAU-2 IS DISCONNECTED.						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:							RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 12 Nov-94  
PREPARED BY: AJN  
CHECKED BY: AJN  
FILE: 7806 XLS

FILE: 7806.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7806

FILE: 7806.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	STM	MFG.:	MODEL:
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK: X REPLACE:
COMMENTS:			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
COMMENTS:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7806

FILE: 7806.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-1	LOCATION (RM)	MEZZANINE	
BOILER TYPE:	STM	MFG.:	MODEL:	
CONVERTER TYPE:	STM/HW	MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:	DHW-CV'S ARE DISCONNECTED FROM STM SUPPLY. PERIMETER RADIATION HAS MANUAL SHUTOFF VALVES			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:	1/2 HP			
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/05/94  
PREPARED BY: AJN/CWW

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 8025

BLDG NAME: BN ADMIN &amp; CLRM

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 12,000

GAS METER: ☐ NSUSPECT ACM: ☐ N**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 31

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	18	18	18	18	18	0

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/05/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8025

AHU NUMBER: AHU-1

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: CENTRAL PLANT

SERVES AREA: N.W. CLASSROOMS

% OF BLDG AREA HEATED: 0

AHU UNIT TYPE MULTI ZONE

NUMBER OF ZONES IF MZ UNIT: 3

CFM-HTG: 0

CFM-CLG: 2,610

MIN %OA: 30

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE

UNIT MODEL: MZ-43

SUPPLY FAN HP: 2

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: EB145TTDR79227

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 31

MONTH SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	18	18	18	18	18	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: Y

IMPLEMENT DEMAND LIMIT CNTRLs? Y

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS: CW control valve serves all 3 AHU's

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/05/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8025  
AHU NUMBER: AHU-2 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: CENTRAL PLANT SERVES AREA: CENTRAL CLASSROOMS  
% OF BLDG AREA HEATED: 0

AHU UNIT TYPE MULTI ZONE

NUMBER OF ZONES IF MZ UNIT: 5

CFM-HTG: 0  
MIN %OA: 20

CFM-CLG: 4,850  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE UNIT MODEL:  
SUPPLY FAN HP: 3 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: MARATHON RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 31 MONTH SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	18	18	18	18	18	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☐ ☐ ☐ ☐ ☒ ☒ ☒ ☒ ☒ ☐ ☐ ☐

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: Y IMPLEMENT DEMAND LIMIT CNTRLs? Y  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: Y ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS: CW control valve serves all 3 AHU's

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/05/94

LOCATION: FT. RILEY, KS

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8025

AHU NUMBER: AHU-3

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: CENTRAL PLANT

SERVES AREA: EAST ADMIN &amp; CLASSROOMS

% OF BLDG AREA HEATED: 0

AHU UNIT TYPE MULTI ZONE

NUMBER OF ZONES IF MZ UNIT: 3

CFM-HTG: 0

CFM-CLG: 2,610

MIN %OA: 30

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE

UNIT MODEL: MZ-6

SUPPLY FAN HP: 2

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: EB145TTDR7927A

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 31

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	18	18	18	18	18	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? Y

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS: CW control valve serves all 3 AHU's



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/05/94  
PREPARED BY: AJN/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 8025

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☐☐ BOILER

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☒ CONVERTER

CONVERTER TAG: CV-1

CONVERTER TYPE: STM TO HW

CONV HT SOURCE: \_\_\_\_\_

☒

CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 100

BOILER MFG: \_\_\_\_\_

UNIT MODEL: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 780,000

BLR CAP INPUT (BTUH): 0

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 31

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	18	18	18	18	18	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/05/94  
PREPARED BY: AJN/CWW

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 8025	BLDG NAME: BN ADMIN & CLRM
PER RAD (SYSTEM TAG) NO: RAD-1	RAD SYS LOCATION: ALL
SOURCE OF HEATING: CV-1	SERVES AREA: ALL
RADIATION UNIT TYPE: HW	% AREA HTG: 0

### RADIATION PUMP

PUMP TAG: 1	PUMP HP: 1.5	PUMP MFG: GOULD
		PUMP MODEL: 179260

### SCHEDULE

DAYS SCHEDULE NO: 31 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	18	18	18	18	18	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS: PNEUMATIC

RADIATION CONTROL: NONE

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: N

CONTROL COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/05/94  
PREPARED BY: AJN/CWW

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 8025 BLDG NAME: BN ADMIN & CLRM  
REF. UNIT NUMBER/TAG: CWP-1 LOCATION (MER#):  
AHU'S SERVED: AHU'S 1,2 & 3  
UNIT TYPE CENTRAL PLANT

**NAMEPLATE**

CHILLER MFG:		TOWER MFG:	
CHILLER MODEL:		# OF TOWER FANS:	0
CHILLER SERIAL NO:		TOWER FAN V:	0
CHILLER V:	0	TOWER FAN AMPS:	0
CHILLER AMPS:	0	TOWER FAN HP:	0
CHILLER PH:	0		
CHILLER CAP (TONS):	0		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 31 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	18	18	18	18	18	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI: ☐ TEMP LITE HI: ☐ OTHER INDICATIONS:  
PRESS LITE LOW: ☐ TEMP LITE LOW: ☐  
PRESS GAUGES: ☐ TEMP GAUGES: ☐

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 1 PUMP MFG: MARATHON  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 8025

FILE: 8025.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER
AHU TYPE:		MFG.:	TRANE
		MODEL:	MZ-6
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)	
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System	
DD - Dual Duct	UH - Unit Heater	IND - Induction System	
O.A. DAMPER	N/A:	OK: X	REPLACE:
R.A. DAMPER	N/A:	OK: X	REPLACE:
E.A. DAMPER	N/A: X	OK:	REPLACE:
F. & B. DAMPER	N/A: X	OK:	REPLACE:
ZONE DAMPER	N/A:	OK: X	REPLACE:
COMMENTS:	RA & OA INTERLOCKED. SMALL AMOUNT OF RUST ON AHU-3		
	BODY, 3 ZONES.		
	DPR-ACT = Damper Actuator		
	RP-ACT = Replace Actuator		
FILTER SECTION	N/A:	OK: X	REPLACE:
COMMENTS:			
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:
INLET VANES	N/A: X	OK:	COMMENTS:
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:
COMMENTS:			
COOLING COIL	N/A:	OK: X	REPLACE:
HEATING COIL	N/A: X	OK:	REPLACE:
PREHEAT COIL	N/A: X	OK:	REPLACE:
REHEAT COIL	N/A: X	OK:	REPLACE:
COMMENTS:	ONE VALVE FOR ALL THREE AHU'S		
	RP-ACT = Replace Actuator		
	RP-BD = Replace Body		
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:
AHU PUMP SEALS	N/A:	OK: X	REPLACE:
COMMENTS:			
PIPE INSULATION	N/A:	OK:	MISSING: X
DUCT INSULATION	N/A: X	OK:	MISSING:
COMMENTS:	*6'- 2-1/2" @ PUMP, 6' 2" @ COIL		

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 8025

FILE: 8025.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	MER					
AHU TYPE:	MZ	MFG.:	TRANE	MODEL:	MZ-10			
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER (6)	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
COMMENTS:	RA & OA DAMPERS INTERLOCKED						DPR-ACT = Damper Actuator	
	OA DAMPER VERY DIRTY, ~ 10% AIR LEAKAGE, 6 ZONES						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:							RP-ACT = Replace Actuator	
						RP-BD = Replace Body		
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:		3' @2'		
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 8025

FILE: 8025.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-3	LOCATION (Rm)	MER				
AHU TYPE:	MZ	MFG.:	TRANE	MODEL:	MZ-6		
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)				
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System				
DD - Dual Duct	UH - Unit Heater		IND - Induction System				
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
COMMENTS:	RA AND OA INTERLOCKED. DIRTY. 10% AIR LEAKAGE.					DPR-ACT = Damper Actuator	
	AHU - CASING IS RUSTY, 3 ZONES.					RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A	
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:						RP-ACT = Replace Actuator	
						RP-BD = Replace Body	
AHU PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:	WHITE RUST ON RA & OA DUCTWORK						

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 8025

FILE: 8025.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-1	LOCATION (RM)	MER
BOILER TYPE:	MFG.:		MODEL:
CONVERTER TYPE:	STM/HW	MFG.: OLD DOMINION STEEL	MODEL: BUILT IN 1976
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter
BOILER BURNER	ATMOSPHERIC:	POWER:	OK: REPLACE:
COMMENTS:	6' LONG, 8" DIAMETER CONVERTER		
BLR PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK:	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:	PERIMETER RADIATION: MANUAL SHUT-OFF VALVES. MANUAL DAMPERS ON		
CONVECTOR BOXES MISSING - CLASS ROOMS HEATED WITH SMALL CABINET			
UNIT HEATERS. LOOKS INSUFFICIENT FOR HEATING SPACE.			
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:			
CV PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE:
CV PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A:	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK:	MISSING: ESTIMATED QUANTITY:*
COMMENTS:	*2-1/2" PIPE INSULATION @ 6' AROUND PUMP		





**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/4/94  
PREPARED BY: AJN/CWW

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 0003 BLDG NAME: POST CHAPEL  
ELECTRIC METER: N CONDITIONED SQFT: 8,828  
GAS METER: N  
SUSPECT ACM: N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 40

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	8	9	9	9	9	9	9
REQ STOP:	22	16	16	22	16	16	12

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/4/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0003  
AHU NUMBER: AHU-1 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: SERVES AREA: ALL  
% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0 CFM-CLG: 4,800  
MIN %OA: 15 MAX %OA: 15

**NAMEPLATE**

UNIT MFG: COMFORT AIRE UNIT MODEL: SW90-3BA  
SUPPLY FAN HP: 0.75 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 40 MONTH SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	8	9	9	9	9	9	9
REQ STOP:	22	16	16	22	16	16	12

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 60 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLs? N  
MAX OA DMPR CONTROL: N ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/4/94

PREPARED BY: AJN/CVWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0003

AHU NUMBER: AHU-2

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: 2

SERVES AREA: ALL

% OF BLDG AREA HEATED: 100

AHU UNIT TYPE FAN ONLY

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 5,000

CFM-CLG: 0

MIN %OA: 15

MAX %OA: 15

**NAMEPLATE**

UNIT MFG: CLARAGE FAN COMPANY

UNIT MODEL: S: 85454

SUPPLY FAN HP: 0

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 40

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	8	9	9	9	9	9	9
REQ STOP:	22	16	16	22	16	16	12

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE:

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRL? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/4/94  
PREPARED BY: AJN/CVWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0003

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL



**BOILER**

BOILER TAG: BLR-1

BOILER TYPE: MED PRESS STEAM (15# TO 125#)

FUEL TYPE: NAT. GAS



**CONVERTER**

CONVERTER TAG: \_\_\_\_\_

CONVERTER TYPE: \_\_\_\_\_

CONV HT SOURCE: \_\_\_\_\_



**CENTRAL PLANT DIRECT**

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: \_\_\_\_\_

BOILER MFG: KEWANEE

UNIT MODEL: 8656

BLR CAP OUTPUT (BTUH): 600,000

BLR CAP INPUT (BTUH): 750,000

COMMENTS: \_\_\_\_\_

#### SCHEDULE

DAYS SCHEDULE NO: 40

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	8	9	9	9	9	9	9
REQ STOP:	22	16	16	22	16	16	12

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 7 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 3

FILE: 3.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	BASEMENT MER					
AHU TYPE:	SZ	MFG.:	COMFORT AIRE	MODEL:				
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	CENTRAL COOLING AIR CONDITIONER (2) COMPRESSORS						DPR-ACT = Damper Actuator	
	B/M NO. 5102-8-18A						RP-ACT = Replace Actuator	
	ASBESTOS FREE							
FILTER SECTION	N/A:	OK:	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK:	REPLACE: X		COMMENTS:				
INLET VANES	N/A:	OK: X	COMMENTS:	MANUAL SETTING				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS: OLD				
COMMENTS:	OA DUCT IS 12" X 18" DUCT							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:	H&V UNIT CONNECTED TO SINGLE ZONE AHU						RP-ACT = Replace Actuator	
	HEATING COIL IS LARGE CAST IRON RADIATOR						RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

LOCATION: FT. RILEY, KANSAS

AJN

3

FILE: 3.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG:

3

FILE: 3.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	BASEMENT MER	
BOILER TYPE:	STM	MFG.:	KEWANEE	MODEL: TYPE R
CONVERTER TYPE:		MFG.:		MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC: X	POWER:	OK: X	REPLACE:
COMMENTS:	OLD CONVERTED COAL BURNER			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				





# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

## BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 7086 BLDG NAME: UNIT CHAPEL  
ELECTRIC METER: N  
GAS METER: N  
SUSPECT ACM: Y  
CONDITIONED SQFT: 8,696

## BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 35

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	0	0	0	0	0	10
REQ STOP:	14	0	0	0	0	0	13

## REMARKS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7086  
AHU NUMBER: AHU-1  
REFRIG SYS # SRVNG AHU: CH-1  
AHU LOCATION: MER BASEMENT  
SERVES AREA: SANCTUARY  
% OF BLDG AREA HEATED: 67

AHU UNIT TYPE SINGLE ZONE  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 5,400  
MIN %OA: 30  
CFM-CLG: 5,400  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: \_\_\_\_\_ UNIT MODEL: \_\_\_\_\_  
SUPPLY FAN HP: 3 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: GE RET/EXH FAN MTR MFG: \_\_\_\_\_  
SUPPLY FAN MTR MODEL: \_\_\_\_\_ RET/EXH FAN MTR MODEL: \_\_\_\_\_  
COMMENTS: \_\_\_\_\_

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 35  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	0	0	0	0	0	10
REQ STOP:	14	0	0	0	0	0	13

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP: \_\_\_\_\_  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: Y  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: Y  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR: \_\_\_\_\_  
CONTROLS COMMENTS: Face & Bypass dampers

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7086  
AHU NUMBER: FC-1  
AHU LOCATION: THROUGHOUT OFFICE AREA  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: ADMIN OFFICE  
% OF BLDG AREA HEATED: 33

AHU UNIT TYPE FAN COILS - 2 PIPE  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,300  
MIN %OA: 20  
CFM-CLG: 3,300  
MAX %OA: 20

**NAMEPLATE**

UNIT MFG: MODINE  
SUPPLY FAN HP: 0.75  
SUPPLY FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
COMMENTS:   
UNIT MODEL: CS90  
RET/EXH FAN HP: 0  
RET/EXH FAN MTR MFG:   
RET/EXH FAN MTR MODEL:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 34  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	9	9	9	9	9	10
REQ STOP:	14	17	17	17	17	17	13

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ N  
RET AIR DMPR CONTROL: ☐ N  
EXH AIR DMPR CONTROL: ☐ N  
MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N  
IMPLEMENT DEMAND LIMIT CNTRLS? ☐ N  
TIME CLOCK: ☐ N  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS: 3 speed fan switch on FCs.

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7086

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL



☒ BOILER

BOILER TAG: BLR-1

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS



☐ CONVERTER

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



☐ CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: BURNHAM

UNIT MODEL: EW-30-G-PF

BLR CAP OUTPUT (BTUH): 907,000

BLR CAP INPUT (BTUH): 1,308,000

COMMENTS:

#### SCHEDULE

DAYS SCHEDULE NO: 34

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	9	9	9	9	9	10
REQ STOP:	14	17	17	17	17	17	13

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: 172 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7086

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE:



**BOILER**

BOILER TAG:

BOILER TYPE:

FUEL TYPE:



**CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION:

BOILER MFG:

UNIT MODEL:

COMMENTS:

BLR CAP OUTPUT (BTUH):

BLR CAP INPUT (BTUH):

### SCHEDULE

DAYS SCHEDULE NO: 34

MONTH SECHDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	9	9	9	9	9	10
REQ STOP:	14	17	17	17	17	17	13

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

### HW PUMP

PUMP TAG: 1

PUMP HP: 1.5

PUMP MFG: CENTURY

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: 8-164733-20

### HW PUMP

PUMP TAG: 2

PUMP HP: 0.75

PUMP MFG: BELL & GOSSETT

PUMP SERVICE: DUAL TEMP PUMP

PUMP MODEL: MOT 148-8

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CVVV

## REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS

BLDG NUMBER: 7086 BLDG NAME: UNIT CHAPEL  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: AHU-1  
UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

## NAMEPLATE

CHILLER MFG:	TSI	TOWER MFG:	
CHILLER MODEL:	502CD20S	# OF TOWER FANS:	4
CHILLER SERIAL NO:	6-86-11606-1	TOWER FAN V:	208
CHILLER V:	208	TOWER FAN AMPS:	2.4
CHILLER AMPS:	44.8	TOWER FAN HP:	0.5
CHILLER PH:	3		
CHILLER CAP (TONS):	20		
COMMENTS:			

## SCHEDULE

DAYS SCHEDULE NO: 35 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	0	0	0	0	0	10
REQ STOP:	14	0	0	0	0	0	13

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI: ☐ TEMP LITE HI: ☐ OTHER INDICATIONS:  
PRESS LITE LOW: ☐ TEMP LITE LOW: ☐  
PRESS GAUGES: ☐ TEMP GAUGES: ☐

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: AJN/CWW

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 7086 BLDG NAME: UNIT CHAPEL  
REF. UNIT NUMBER/TAG: CH-2 LOCATION (MER#): MER  
AHU'S SERVED: FC-1  
UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

### NAMEPLATE

CHILLER MFG:	COPELAMETIC	TOWER MFG:	TSI
CHILLER MODEL:	9RC1-1010	# OF TOWER FANS:	1
CHILLER SERIAL NO:	STC 82A -01421	TOWER FAN V:	208
CHILLER V:	208	TOWER FAN AMPS:	2.4
CHILLER AMPS:	42.8	TOWER FAN HP:	0.5
CHILLER PH:	3		
CHILLER CAP (TONS):	10		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 34 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	9	9	9	9	9	10
REQ STOP:	14	17	17	17	17	17	13

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 40  
CWR SETPOINT: 50

CNWS SETPOINT: 0  
CNWR SETPOINT: 0

PRESS LITE HI: ☐  
PRESS LITE LOW: ☐  
PRESS GAUGES: ☐

TEMP LITE HI: ☐  
TEMP LITE LOW: ☐  
TEMP GAUGES: ☐

OTHER INDICATORS:

CONTROLS COMMENTS:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7086

FILE: 7086.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER					
AHU TYPE:	SZ	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	FACE COIL IS IN CLOSED POSITION. 100% OUTSIDE AIR, 0% RETURN						DPR-ACT = Damper Actuator	
	AIR.						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:	FROM CONTROLS SHEET F & B DAMPER IS MODULATED TO SATISFY THERMOSTAT.							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	DX	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	NONE	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:	RP-ACT = Replace Actuator							
	RP-BD = Replace Body							
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:	WIRES EXPOSED, MOTOR NOT BOLTED DOWN							
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:		15' @ 2-1/2"		
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:	AHU PUMP UNINSULATED							



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

FILE: 7086.XLS

BLDG: 7086

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

CHILLER / EQUIP. NO.	CH-1,2	LOCATION (RM)	OUTSIDE	
REFG. EQUIP. TYPE:	R-ACCU	MFG.: TSI	MODEL: 502CD205/TAC-11	
C-WCT = Centrifugal w/ Water Side Cooling Tower		R-ACCU = Reciprocating w/ Air Cooled Condensing Unit		
R-WCT = Reciprocating w/ Water Side Cooling Tower		ASB-WCT = Absorption w/ Water Side Cooling Tower		
ACCU = Air Cooled Condensing Unit		CT = Cooling Tower		
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:
COMP. MOTOR	N/A:	OK:	REPLACE:	SIZE:
COMP. MOTOR	N/A:	OK:	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A:	OK: X	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A:	OK:	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A:	OK:	REPLACE:	SIZE:
COMMENTS: TYPICAL OF 4 ON LARGE UNIT (SERVES THE AHU IN BASEMENT MER)				
1 FAN ON SMALL UNIT - OK				
COOLING TOWER	N/A:	OK:	REPLACE:	SIZE:
AIR COOLED COND.	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS:				
CHILLER INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CHW PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
CHW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 12 Nov-94  
PREPARED BY: AJN  
CHECKED BY: AJN

FILE: 7086 XLS

CHILLER / EQUIP. NO.	CH-3	LOCATION (RM)	MER BASEMENT	
REFG. EQUIP. TYPE:	R-ACCU	MFG.:	REFRIG. SYST. CO. MODEL: CHS-10W	
C-WCT = Centrifugal w/ Water Side Cooling Tower			R-ACCU = Reciprocating w/ Air Cooled Condensing Unit	
R-WCT = Reciprocating w/ Water Side Cooling Tower			ASB-WCT = Absorption w/ Water Side Cooling Tower	
ACCU = Air Cooled Condensing Unit			CT = Cooling Tower	
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:
COMP. MOTOR	N/A:	OK:	REPLACE:	SIZE:
COMP. MOTOR	N/A:	OK:	REPLACE:	SIZE:
COMP. MOTOR	N/A:	OK:	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A: X	OK:	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A:	OK:	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:	ACCU FOR THIS CHILLER IS SMALL ONE OF TWO OUTSIDE. SERVES FAN COILS ONLY			
COOLING TOWER	N/A: X	OK:	REPLACE:	SIZE:
AIR COOLED COND.	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CHILLER INSUL.	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
CHW PIPE INSUL.	N/A:	OK: X	MISSING: X	ESTIMATED QUANTITY: ~50' OF 2-1/2"
COMMENTS:				
CHW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:	DUAL TEMP - HW ALSO			

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7086

FILE: 7086.XLS

BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS				
BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER	
BOILER TYPE:	HW	MFG.:	BURNHAM	MODEL: EW-30-G-PF
CONVERTER TYPE:		MFG.:		MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X	REPLACE:
COMMENTS: BOILER LOOKS NEW				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS: SEE REFRIGERATION FORM FOR DUAL TEMP PUMP				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 20' @ 3-1/2"
COMMENTS:				
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: AJN/CVWW

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 0602

BLDG NAME: DENTAL CLINIC

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 11,557

GAS METER: ☐ N

SUSPECT ACM: ☐ N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 9

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0602  
AHU NUMBER: AHU-1 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: ALL  
% OF BLDG AREA HEATED: 80

AHU UNIT TYPE DUAL DUCT NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 13,900 CFM-CLG: 13,900  
MIN %OA: 10 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE UNIT MODEL: H-25-B  
SUPPLY FAN HP: 25 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: GOULD RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	STEAM	<input checked="" type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 9 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC/ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: 0  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: Y MIXED AIR DMPR CONTROL: Y IMPLEMENT DEMAND LIMIT CNTRLs? N  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: N TIME CLOCK: Y  
RET AIR DMPR CONTROL: Y ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? Y  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS: Time Clock: 5am-8pm M-W; 5am-9pm Th-F; off Sat & Sun

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0602

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL



☒ BOILER

BOILER TAG: BLR-1

BOILER TYPE: MED PRESS STEAM (15# TO 125#)

FUEL TYPE: NAT. GAS



☐ CONVERTER

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



☐ CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION:

20

BOILER MFG: IBR

UNIT MODEL: PF506

BLR CAP OUTPUT (BTUH):

506,000

BLR CAP INPUT (BTUH):

607,200

COMMENTS:

#### SCHEDULE

DAYS SCHEDULE NO: 9

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: AJN/CWW

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0602

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL



☐ BOILER

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_



☒ CONVERTER

CONVERTER TAG: CV-1

CONVERTER TYPE: STM TO HW

CONV HT SOURCE: \_\_\_\_\_



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 20

BOILER MFG: BELL AND GOSSETT

UNIT MODEL: SU-64-4

BLR CAP OUTPUT (BTUH): 500,000

BLR CAP INPUT (BTUH): \_\_\_\_\_

COMMENTS: Year Built: 1979

### SCHEDULE

DAYS SCHEDULE NO: 9

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: \_\_\_\_\_

RESET CONTROLS: ☐ N

OPERATING SETPOINT: \_\_\_\_\_ DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

### HW PUMP

PUMP TAG: 1

PUMP HP: 0.25

PUMP MFG: BELL AND GOSSETT

PUMP SERVICE: HW PUMP

PUMP MODEL: \_\_\_\_\_



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: AJN/CWW

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 0602 BLDG NAME: DENTAL CLINIC  
PER RAD (SYSTEM TAG) NO: RAD-1 RAD SYS LOCATION:  
SOURCE OF HEATING: BLR-1 SERVES AREA: PERIMETER ROOMS  
RADIATION UNIT TYPE: HW % AREA HTG: 20

### RADIATION PUMP

PUMP TAG: 1 PUMP HP: 0.25 PUMP MFG:  
PUMP MODEL:

### SCHEDULE

DAYS SCHEDULE NO: 9 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS: ELECTRIC

RADIATION CONTROL:

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: ☒

CONTROL COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: AJN/CWW

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 0602 BLDG NAME: DENTAL CLINIC  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): EXTERIOR BLDG.  
AHU'S SERVED: AHU-1  
UNIT TYPE AIR COOLED CONDENSING UNIT W/ CHW

**NAMEPLATE**

CHILLER MFG:	TSI	TOWER MFG:	
CHILLER MODEL:	CA2CD75	# OF TOWER FANS:	6
CHILLER SERIAL NO:	4-87-12225	TOWER FAN V:	208
CHILLER V:	460	TOWER FAN AMPS:	4.5
CHILLER AMPS:	67.5	TOWER FAN HP:	1
CHILLER PH:	3		
CHILLER CAP (TONS):	78.2		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 9 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	9	9	9	9	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 52

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐

TEMP LITE HI: ☐

OTHER INDICATORS:

PRESS LITE LOW: ☐

TEMP LITE LOW: ☐

PRESS GAUGES: ☐

TEMP GAUGES: ☐

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 2 PUMP MFG: BALDOR  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL: M3558T

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 602

FILE: 602.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER					
AHU TYPE: DUAL DUCT	MFG.:		TRANE CLIMATE CHANGER			TYPE: H-25B		
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER (2)	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS: THERMAL RECLAIM COIL								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:	1/3 HP ON HOT WATER			
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 12 Nov-94  
PREPARED BY: AJN  
CHECKED BY: AJN  
FILE: 602.XLS

FILE: 602.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 602

FILE: 602.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	STM	MFG.: BURNHAM	MODEL: PF-506
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X
REPLACE:			
COMMENTS:	BOILER IS LEAKING AT BOTTOM, SIDES ARE RUSTED OUT.		
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING:
ESTIMATED QUANTITY:			
PIPE INSULATION	N/A:	OK:	MISSING: X
ESTIMATED QUANTITY: 15' @ 4"			
COMMENTS:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE:
HW PUMP SEALS	N/A:	OK:	REPLACE:
SIZE:			
HW PUMP MOTOR	N/A:	OK:	REPLACE:
HW PUMP SEALS	N/A:	OK:	REPLACE:
SIZE:			
HW PUMP MOTOR	N/A:	OK:	REPLACE:
HW PUMP SEALS	N/A:	OK:	REPLACE:
SIZE:			
HW PUMP MOTOR	N/A:	OK:	REPLACE:
HW PUMP SEALS	N/A:	OK:	REPLACE:
SIZE:			
COMMENTS:			
CV PUMP MOTOR	N/A:	OK: X	REPLACE:
CV PUMP SEALS	N/A:	OK: X	REPLACE:
SIZE:			
COMMENTS:			
CV INSULATION	N/A:	OK: X	MISSING:
ESTIMATED QUANTITY:			
CV PIPE INSUL.	N/A:	OK: X	MISSING:
ESTIMATED QUANTITY:			
COMMENTS:			



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 7665 BLDG NAME: DENTAL CLINIC  
ELECTRIC METER: N CONDITIONED SQFT: 11,076  
GAS METER: N  
SUSPECT ACM: N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 1

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRES STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
REQ START:	<u>0</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>0</u>
REQ STOP:	<u>0</u>	<u>16</u>	<u>16</u>	<u>16</u>	<u>16</u>	<u>16</u>	<u>0</u>

**REMARKS:**

Building was remodeled in 1990. Building contact: Michelle Brethour @ Ext: 4332

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/12/94

LOCATION: FT. RILEY, KS

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7665

AHU NUMBER: AHU-1

AHU LOCATION: BASEMENT MER

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: ALL

% OF BLDG AREA HEATED: 100

AHU UNIT TYPE MULTI ZONE

NUMBER OF ZONES IF MZ UNIT: 6

CFM-HTG: 19,500

CFM-CLG: 19,500

MIN %OA: 10

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: U.S. AIR CO

UNIT MODEL: BMZ-224

SUPPLY FAN HP: 15

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	STEAM	<input checked="" type="checkbox"/>
COOLING COIL:	DX	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 1

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 72

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 72

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 72

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 72

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☒IMPLEMENT DEMAND LIMIT CNTRLs? ☐MAX OA DMPR CONTROL: ☒ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☒ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7665

BOILER RM LOCATION: BASEMENT AREA

#### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒

☒ BOILER

BOILER TAG: BLR-1

BOILER TYPE: LOW PRESS STEAM (<15#)

FUEL TYPE: NAT. GAS

☐

☐ CONVERTER

CONVERTER TAG: \_\_\_\_\_

CONVERTER TYPE: \_\_\_\_\_

CONV HT SOURCE: \_\_\_\_\_

☐

☐ CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: \_\_\_\_\_

BOILER MFG: KEWANEE

UNIT MODEL: 3R51G

BLR CAP OUTPUT (BTUH): 648,000

BLR CAP INPUT (BTUH): 810,000

COMMENTS: \_\_\_\_\_

#### SCHEDULE

DAYS SCHEDULE NO: 1

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: N

OPERATING SETPOINT: \_\_\_\_\_ DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 7665

BLDG NAME: DENTAL CLINIC

REF. UNIT NUMBER/TAG: CH-1

LOCATION (MER#): BASEMENT MER

AHU'S SERVED: AHU-1

UNIT TYPE RECIPROCATING WITH COOLING TOWER

**NAMEPLATE**

CHILLER MFG: COPELAMETIC

TOWER MFG: MARLEY AQUATOWER

CHILLER MODEL: 4RH1-2500-TSK

# OF TOWER FANS: 1

CHILLER SERIAL NO: CTC82B01746

TOWER FAN V: 0

CHILLER V: 208

TOWER FAN AMPS: 0

CHILLER AMPS: 88.5

TOWER FAN HP: 5

CHILLER PH: 3

CHILLER CAP (TONS): 50

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 1

MONTHS SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC/ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐TEMP LITE HI: ☐

OTHER INDICATIONS:

PRESS LITE LOW: ☐TEMP LITE LOW: ☐PRESS GAUGES: ☐TEMP GAUGES: ☐

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1

PUMP HP: 5

PUMP MFG: MARATHON

PUMP SERVICE: COND WATER PUMP (CNW)

PUMP MODEL: KVD184-FL7027ACW

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7665

FILE: 7665.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER					
AHU TYPE:	MZ	MFG.:	U.S. AIR CO.			MODEL:	MZ-224	
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	6 ZONES - PNEUMATIC. COULD NOT FIND OA & RA DAMPERS -						DPR-ACT = Damper Actuator	
	MUST BE LOCATED ELSEWHERE IN BLDG. OR ON ROOF.						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A		
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:		N/A		
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	(NONE)	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:						RP-ACT = Replace Actuator		
						RP-BD = Replace Body		
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS: *50' OF 1-1/2" ON STM & COND								

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 8 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN  
FILE: 7665.XLS

FILE: 7665.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN

BLDG: 7665

FILE: 7665.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	STM	MFG.: KEWANEE	MODEL: 3R51G
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER: 1/4 HP	OK: X REPLACE:
COMMENTS:	NEW CONDENSATE PUMP		
BLR PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING: ESTIMATED QUANTITY: ASBESTOS
COMMENTS:			
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:	ELECTRIC DHW HEATER, 80 GALLON - RHEEM, MODEL 81G-80D		
4500 WATTS UPPER			
4500 WATTS LOWER			
CV PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
CV PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A:	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 11/8/94  
PREPARED BY: AJNCWW

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 7670 BLDG NAME: DENTAL CLINIC  
ELECTRIC METER: ☐ N ☐ N ☐ N  
GAS METER: ☐ N  
SUSPECT ACM: ☐ N  
CONDITIONED SQFT: 14,960

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 1

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRES STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
REQ START:	<u>0</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>0</u>
REQ STOP:	<u>0</u>	<u>16</u>	<u>16</u>	<u>16</u>	<u>16</u>	<u>16</u>	<u>0</u>

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 11/8/94  
PREPARED BY: AJNCWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7670  
AHU NUMBER: AHU-1 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: ALL  
% OF BLDG AREA HEATED: 100

AHU UNIT TYPE DOUBLE DUCT NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 25,405 CFM-CLG: 25,405  
MIN %OA: 10 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: JOHN ZINK CO UNIT MODEL: 76-155-1  
SUPPLY FAN HP: 7.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	STEAM	<input checked="" type="checkbox"/>
COOLING COIL:	DX	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 1 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: DUAL SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: Y IMPLEMENT DEMAND LIMIT CNTRL? N  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: N TIME CLOCK: Y  
RET AIR DMPR CONTROL: Y ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: Y

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS: TIME CLOCK NON OPERABLE



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 11/8/94  
PREPARED BY: AJNCWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7670

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: ALL

**BOILER**

BOILER TAG: BLR-1

BOILER TYPE: MED PRESS STEAM (15# TO 125#)

FUEL TYPE: NAT. GAS

☐ **CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: BURNHAM

UNIT MODEL: EL-30-G-WEB

BLR CAP OUTPUT (BTUH): 782,000

BLR CAP INPUT (BTUH): 1,308,000

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 1

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: 10 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 11/8/94  
PREPARED BY: AJNCWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7670

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT ☐ BLR/CONVERTER SERVES AREA OR SERVICE: \_\_\_\_\_

☒ ☐ BOILER ☒ CONVERTER

BOILER TAG: \_\_\_\_\_ CONVERTER TAG: CV-1

BOILER TYPE: \_\_\_\_\_ CONVERTER TYPE: STM TO HTHW

FUEL TYPE: \_\_\_\_\_ CONV HT SOURCE: BLR-1

☐ CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: NOT AVAILABLE

BLR CAP OUTPUT (BTUH): 0

UNIT MODEL: \_\_\_\_\_

BLR CAP INPUT (BTUH): 0

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 1

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: 1

PUMP HP: 0.5

PUMP MFG: \_\_\_\_\_

PUMP SERVICE: HW PUMP

PUMP MODEL: \_\_\_\_\_

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 11/8/94  
PREPARED BY: AJNCWW

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 7670 BLDG NAME: DENTAL CLINIC  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): OUTSIDE  
AHU'S SERVED:  
UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

### NAMEPLATE

CHILLER MFG:	CARRIER	TOWER MFG:	
CHILLER MODEL:	30GB090	# OF TOWER FANS:	8
CHILLER SERIAL NO:	Q794171	TOWER FAN V:	460
CHILLER V:	460	TOWER FAN AMPS:	3
CHILLER AMPS:	45	TOWER FAN HP:	1.5
CHILLER PH:	3		
CHILLER CAP (TONS):	83		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 1 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐ N  
PRESS LITE LOW: ☐ N  
PRESS GAUGES: ☐ N

TEMP LITE HI: ☐ N  
TEMP LITE LOW: ☐ N  
TEMP GAUGES: ☐ N

OTHER INDICATIONS:

CONTROLS COMMENTS:

### CW and CNW PUMPS

PUMP TAG: 1 PUMP HP: 2 PUMP MFG:  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

8 Nov-94

PREPARED BY:

AJN

CHECKED BY:

AJN

BLDG:

7670

FILE:

7670.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER					
AHU TYPE:	DD	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	7.5 HP			DPR-ACT = Damper Actuator				
				RP-ACT = Replace Actuator				
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A:	OK: X	COMMENTS:					
RETURN AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
RETURN FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:						RP-ACT = Replace Actuator		
						RP-BD = Replace Body		
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

8 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

FILE: 7670.XLS

7670.XLS

BLDG:

7670

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7670

FILE: 7670.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	STM	MFG.: BURNHAM	MODEL: EL-30-G-W-B
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X REPLACE:
COMMENTS:			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
COMMENTS:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS: NEW BOILER, 1992. CONDENSATE TANK (12" X 15" X 17") RUSTED.			
DUNHAM-BUSH CRV620-8			
CV PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
CV PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A:	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7670

FILE: 7670.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-1	LOCATION (RM)	MER	
BOILER TYPE:	MFG.:		MODEL:	
CONVERTER TYPE:	STM/HW	MFG.: TACO	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS: CONV = 5' X 8" DIA.				
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: ~1/12 HP
CV PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				





**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/9/94

PREPARED BY: CWWW/AJN

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 7245 BLDG NAME: ENL PERS DIN  
ELECTRIC METER: ☐ N ☐ N ☐ N  
GAS METER: ☐ N  
SUSPECT ACM: ☐ N  
CONDITIONED SQFT: 13,998

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 23

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRES STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
REQ START:	<u>6</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>6</u>
REQ STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/9/94

PREPARED BY: CWW/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7245

AHU NUMBER: AHU-1

AHU LOCATION: MEZZ

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: DINNING

% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0

CFM-CLG: 7,000

MIN %OA: 30

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE CLIMATE CHANGER

UNIT MODEL: 2-15A

SUPPLY FAN HP: 5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: TOSHEBA

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23

MONTH SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/9/94  
PREPARED BY: CWW/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7245  
AHU NUMBER: AHU-2  
AHU LOCATION: MEZZ  
REFRIG SYS # SRVNG AHU: CH-1  
SERVES AREA: DINNING  
% OF BLDG AREA HEATED: 0

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0  
MIN %OA: 30

CFM-CLG: 7,250  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE CLIMATE CHANGER  
UNIT MODEL: 2-15A  
SUPPLY FAN HP: 5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: TOSHEBA  
RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL:  
RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23  
MONTH SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ Y  
RET AIR DMPR CONTROL: ☐ Y  
EXH AIR DMPR CONTROL: ☐ N  
MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N  
IMPLEMENT DEMAND LIMIT CNTRLs? ☐ N  
TIME CLOCK: ☐ N  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/9/94

PREPARED BY: CWW/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7245

AHU NUMBER: HV-1

AHU LOCATION: LATRINE MEZZ

REFRIG SYS # SRVNG AHU:

SERVES AREA: KITCHEN

% OF BLDG AREA HEATED: 24

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 11,400

CFM-CLG: 0

MIN %OA: 100

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE TORRIENT

UNIT MODEL: 217-1

SUPPLY FAN HP: 5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: CENTURY

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/9/94

PREPARED BY: CWW/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7245  
AHU NUMBER: HV-2 AHU LOCATION: KITCHEN MEZZ  
REFRIG SYS # SRVNG AHU: SERVES AREA: KITCHEN  
% OF BLDG AREA HEATED: 8

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,600  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 1.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLS? N  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/9/94  
PREPARED BY: CWW/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7245  
AHU NUMBER: HV-3 AHU LOCATION: KITCHEN MEZZ  
REFRIG SYS # SRVNG AHU: SERVES AREA: DISHWASHING  
% OF BLDG AREA HEATED: 2

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 1,000  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE TORRIVENT UNIT MODEL: 210-1  
SUPPLY FAN HP: 1 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: KINGSTON-COML RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 9457 RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☐ ☐ ☐ ☐ ☐ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLS? N  
ECONOMIZER DB CONTROL: N TIME CLOCK: N  
ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/9/94  
PREPARED BY: CWW/AJN

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7245

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: SPACE HEAT &amp; DHW

☒ **BOILER**

BOILER TAG: BLR-1

BOILER TYPE: MED PRESS STEAM (15# TO 125#)

FUEL TYPE: NAT. GAS

☐ **CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 66

BOILER MFG: BURNHAM

UNIT MODEL: 4FL-675A-40-G-PE

BLR CAP OUTPUT (BTUH): 5,657,000

BLR CAP INPUT (BTUH): 7,071,000

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 23

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: N

OPERATING SETPOINT: 10 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/9/94  
PREPARED BY: CWW/AJN

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7245

BOILER RM LOCATION: MEZZ

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: PERIMETER RADIATION

☐ ☐ **BOILER**  
BOILER TAG: \_\_\_\_\_  
BOILER TYPE: \_\_\_\_\_  
FUEL TYPE: \_\_\_\_\_

☒ **CONVERTER**  
CONVERTER TAG: CV-1  
CONVERTER TYPE: STM TO HTHW  
CONV HT SOURCE: BLR-1

☐ **CENTRAL PLANT DIRECT**

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 66

BOILER MFG: OLD DOMINION  
UNIT MODEL: 50254

BLR CAP OUTPUT (BTUH): 0  
BLR CAP INPUT (BTUH): 0

COMMENTS: \_\_\_\_\_

### SCHEDULE

DAYS SCHEDULE NO: 23 MONTH SECHDULE NO: 1  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC  
OPERATING SETPOINT: 0 DEG F or PSIG  
TYPE OF BURNER CONTROLS: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_

RESET CONTROLS: N



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/9/94  
PREPARED BY: CWW/AJN

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 7245 BLDG NAME: ENL PERS DIN  
REF. UNIT NUMBER/TAG: CWP-1 LOCATION (MER#): MER  
AHU'S SERVED: AHU-1, 2  
UNIT TYPE: OTHER

### NAMEPLATE

CHILLER MFG:		TOWER MFG:	
CHILLER MODEL:		# OF TOWER FANS:	0
CHILLER SERIAL NO:		TOWER FAN V:	0
CHILLER V:	0	TOWER FAN AMPS:	0
CHILLER AMPS:	0	TOWER FAN HP:	0
CHILLER PH:	0		
CHILLER CAP (TONS):	0		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 25 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	5	5	5	5	5	0
REQ STOP:	0	20	20	20	20	20	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☐ ☐ ☐ ☐ ☒ ☒ ☒ ☒ ☒ ☐ ☐ ☐

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0  
CWR SETPOINT: 0

CNWS SETPOINT: 0  
CNWR SETPOINT: 0

PRESS LITE HI: ☐ N  
PRESS LITE LOW: ☐ N  
PRESS GAUGES: ☐ N

TEMP LITE HI: ☐ N  
TEMP LITE LOW: ☐ N  
TEMP GAUGES: ☐ N

OTHER INDICATIONS:

CONTROLS COMMENTS:

### CW and CNW PUMPS

PUMP TAG: 1 PUMP HP: 5 PUMP MFG: CENTURY  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL: 6-349906-01

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7245

FILE: 7245.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MEZZANINE				
AHU TYPE:	SZ	MFG.:	TRANE	MODEL:	TYPE 2-15A		
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)				
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System				
DD - Dual Duct	UH - Unit Heater		IND - Induction System				
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT: X
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS: OA/RA INTERLOCKED							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS: N/A			
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

9 Nov-94

PREPARED BY:

AJN

CHECKED BY:

AJN

BLDG:

**7245**

FILE:

7245.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	MEZZANINE					
AHU TYPE:	SZ	MFG.:	TRANE CLIMATE CHANGER	MODEL:	2-15A			
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
COMMENTS:		OA/RA INTERLOCKED;					DPR-ACT = Damper Actuator	
							RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT:* RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:	
COMMENTS:		*2" CONTROL VALVE					RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7245

FILE: 7245.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	H&V-1	LOCATION (Rm)	MEZZANINE				
AHU TYPE:	H&V	MFG.:	TRANE TORRIVENT	MODEL:	217-1		
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT: X
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS: OA DAMPER LINKAGE DISCONNECTED							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS:				
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:				
COMMENTS:							
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:	10'-3" PIPE		
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
COMMENTS: ACM ON PIPE FITTINGS REMOVED							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7245

FILE: 7245.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	H&V-2	LOCATION (Rm)	MEZZANINE					
AHU TYPE:	H&V	MFG.:				MODEL:		
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
COMMENTS:								DPR-ACT = Damper Actuator
								RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:				N/A
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				N/A
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT:	RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP-ACT:	RP-BD:
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT:	RP-BD:
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT:	RP-BD:
COMMENTS:								RP-ACT = Replace Actuator
								RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								ACM ON 90'S & TEES ARE REMOVED

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7245

FILE: 7245.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	H&V-3	LOCATION (Rm)	MEZZANINE						
AHU TYPE:	H&V	MFG.:	TRANE TORRIVENT			MODEL:	210-1		
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater		IND - Induction System						
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	X*	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:		
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:		
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:		
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:		
COMMENTS: *LINKAGE IS DISCONNECTED									
DPR-ACT = Damper Actuator									
RP-ACT = Replace Actuator									
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:					
COMMENTS:									
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:						
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS: N/A					
COMMENTS:									
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:	
COMMENTS:									
RP-ACT = Replace Actuator									
RP-BD = Replace Body									
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:					
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:					
COMMENTS:									
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:					
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:					
COMMENTS: PIPE INSULATION MISSING ON 90'S & TEES (ACM REMOVAL)									

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7245

FILE: 7245.XLS

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7245

FILE: 7245.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER	
BOILER TYPE:	STM	MFG.: BURNHAM	MODEL: 4FL-675A-40-G-PF	
CONVERTER TYPE:		MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor		
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 30' @ 4"
COMMENTS:				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS: NO INSULATION ON BOILER FLUE ~ 25' @ 24" DIA, 2-1/2" THICK				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

9 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

BLDG:

7245

FILE:

7245.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-1	LOCATION (RM)	KITCHEN MEZZANINE	
BOILER TYPE:	TYPICAL OF 2	MFG.:	MODEL:	
CONVERTER TYPE:	DHW STM/HW	MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor		
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 30' @ 2-1/2"
COMMENTS:				

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7245

FILE: 7245.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-3	LOCATION (RM)	MEZZANINE		
BOILER TYPE:	MFG.: OLD DOMINION		MODEL:		
CONVERTER TYPE:	STM/HW	MFG.:	MODEL:		
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Convertor		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Convertor		
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:	
COMMENTS:	6" DIA X 3', TEMP @ 162 DEGREES F				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:	
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:	
COMMENTS:					
BLR INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:	
PIPE INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:	
COMMENTS:					
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:	
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:	
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
COMMENTS:					
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:	
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:	
COMMENTS:					
CV INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:	
CV PIPE INSUL.	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 10' @ 2-1/2"	
COMMENTS:					

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 7606 BLDG NAME: ENL PERS DIN  
ELECTRIC METER: ☐ N ☒ Y  
GAS METER: ☒ Y  
SUSPECT ACM: ☒ Y  
CONDITIONED SQFT: 13,493

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 23

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRES STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
REQ START:	<u>6</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>6</u>
REQ STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>

**REMARKS:**

SUSPECT ACM LOCATED ON PIPE FITTINGS AND BOILER FLUE

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7606  
AHU NUMBER: AHU-1 AHU LOCATION: MEZZ  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: DINNING  
% OF BLDG AREA HEATED: 25

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 7,000 CFM-CLG: 7,000  
MIN %OA: 30 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 3 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: CENTURY RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 6-332795 RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIPT: 0  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRL? N  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: Y ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7606

AHU NUMBER: AHU-2

AHU LOCATION: MEZZ

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: DINNING

% OF BLDG AREA HEATED: 25

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 7,250

MIN %OA: 30

CFM-CLG: 7,250

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 3

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	STEAM	<input checked="" type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CVWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7606  
AHU NUMBER: HV-1  
AHU LOCATION: MEZZ  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: KITCHEN  
% OF BLDG AREA HEATED: 25

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 11,400  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: MARATHON  
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23  
MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7606  
AHU NUMBER: HV-2  
AHU LOCATION: MEZZ  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: KITCHEN  
% OF BLDG AREA HEATED: 8

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,600  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 1.5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: MARATHON  
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: ☒ FEB: ☒ MAR: ☒ APR: ☒ MAY: ☐ JUN: ☐ JUL: ☐ AUG: ☐ SEP: ☐ OCT: ☒ NOV: ☒ DEC: ☒

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ Y  
RET AIR DMPR CONTROL: ☐ N  
EXH AIR DMPR CONTROL: ☐ N

MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N

IMPLEMENT DEMAND LIMIT CNTRLS? ☐ N  
TIME CLOCK: ☐ N  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7606

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT: BLR/CONVERTER SERVES AREA OR SERVICE: SPACE HEAT & DHW



##### BOILER

BOILER TAG: BLR-1  
BOILER TYPE: MED PRESS STEAM (15# TO 125#)  
FUEL TYPE: NAT. GAS

##### CONVERTER

CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_



##### CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 17

BOILER MFG: PAWNEE  
UNIT MODEL: A-250

BLR CAP OUTPUT (BTUH): 6,900,000  
BLR CAP INPUT (BTUH): 8,625,000

COMMENTS: \_\_\_\_\_

#### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: N

OPERATING SETPOINT: 8 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7606

BOILER RM LOCATION: MEZZ

**BOILER UNIT**

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: BB RADIATION

☐ BOILER

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☒ CONVERTER

CONVERTER TAG: CV-1

CONVERTER TYPE: STM TO HTHW

CONV HT SOURCE: \_\_\_\_\_



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 17

BOILER MFG: DUNHAM BUSH

BLR CAP OUTPUT (BTUH): 0

UNIT MODEL: \_\_\_\_\_

BLR CAP INPUT (BTUH): 0

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 23

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: 1

PUMP HP: 0.75

PUMP MFG: BALDOR

PUMP SERVICE: HW PUMP

PUMP MODEL: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS**

BLDG NUMBER: 7606

BLDG NAME: ENL PERS DIN

REF. UNIT NUMBER/TAG: CH-1

LOCATION (MER#): MER

AHU'S SERVED: AHU-1, 2

UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

**NAMEPLATE**

CHILLER MFG: TSI  
CHILLER MODEL: SC2CD70  
CHILLER SERIAL NO: 9225-5  
CHILLER V: 208  
CHILLER AMPS: 135  
CHILLER PH: 3  
CHILLER CAP (TONS): 70

TOWER MFG: TSI  
# OF TOWER FANS: 6  
TOWER FAN V: 208  
TOWER FAN AMPS: 0  
TOWER FAN HP: 1

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 23

MONTHS SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐TEMP LITE HI: ☐

OTHER INDICATIONS:

PRESS LITE LOW: ☐TEMP LITE LOW: ☐PRESS GAUGES: ☐TEMP GAUGES: ☐

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1

PUMP HP: 5

PUMP MFG: CENTURY

PUMP SERVICE: CW PUMP (Chilled Water)

PUMP MODEL: SC-215-FMA

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7606

FILE: 7606.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	SUPPLY				
AHU TYPE:	MFG.:		MODEL:				
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
R.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:	SEE PHOTOS FOR AHU'S IN MEZZANINE.						DPR-ACT = Damper Actuator
	NEW CONTROL PANELS SITTING OUT, NOT CONNECTED YET.						RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK:	REPLACE:	SIZE:			
COMMENTS:	KITCHEN MEZZANINE IS SAME AS OTHER DINING HALLS WITH (1) MAU AND (1) AHU ON EACH SIDE.						
SUPPLY AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK:	REPLACE:		COMMENTS:			
INLET VANES	N/A:	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:	CONVERTERS THE SAME AS WELL WITH LARGE ASBESTOS HW CONVERTER/STORAGE TANKS						
COOLING COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:	AHU-1 HAS A LEAKY 3-WAY VALVE ON THE CHILLED WATER @ 2" VALVE.						RP-ACT = Replace Actuator
	AHU-2 CHILLED WATER 3-WAY VALVE IS ALSO SHOT. REPLACE @ 2".						RP-BD = Replace Body
AHU PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:			
COMMENTS:	NEEDS 30' OF 2" INSULATION ON AHU'S						
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:	CONVERTER PUMP FOR PERIMETER RADIATION NOT BOLTED DOWN.						

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

FILE: 7606.XLS

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7606

FILE: 7606.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	STM	MFG.: PAWNEE	MODEL: A-250
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X
REPLACE:			
COMMENTS:	BOILER SHELL RUSTED, ASBESTOS ON FLUE		
BLR PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
COMMENTS:	PIPE INSULATION PEELING		
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: AJN

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 7654 BLDG NAME: ENL PERS DIN  
ELECTRIC METER: ☐ N ☐ Y  
GAS METER: ☐ N ☐ Y  
SUSPECT ACM: ☐ N ☐ Y  
CONDITIONED SQFT: 13,493

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 23

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRES STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
REQ START:	<u>6</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>6</u>
REQ STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>

**REMARKS:**

SUSPECT ACM LOCATED ON BOILER FLUE AND PIPE FITTINGS.

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7654

AHU NUMBER: AHU-1

AHU LOCATION: MEZZ

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: DINNING

% OF BLDG AREA HEATED: 25

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 7,000

MIN %OA: 30

CFM-CLG: 7,000

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: DUNHAM/BUSH

UNIT MODEL: HAH-80

SUPPLY FAN HP: 5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: CENTURY

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 6-322465-01

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	STEAM	<input checked="" type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 70

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 70

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 70

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 70

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: Y

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7654

AHU NUMBER: AHU-2

AHU LOCATION: MEZZ

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: DINNING

% OF BLDG AREA HEATED: 25

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 7,250

CFM-CLG: 7,250

MIN %OA: 30

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: DUNHAM/BUSH

UNIT MODEL: HAH-80

SUPPLY FAN HP: 5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: BALDOR

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	STEAM	<input checked="" type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 60

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLS? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7654

AHU NUMBER: HV-1

AHU LOCATION: MEZZ

REFRIG SYS # SRVNG AHU:

SERVES AREA: KITCHEN

% OF BLDG AREA HEATED: 25

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 11,400

MIN %OA: 100

CFM-CLG: 0

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: DUNHAM/BUSH

UNIT MODEL: HAH-80

SUPPLY FAN HP: 5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 60

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7654

AHU NUMBER: HV-2

AHU LOCATION: ABOVE CEILING KITCHEN

REFRIG SYS # SRVNG AHU:

SERVES AREA: KITCHEN

% OF BLDG AREA HEATED: 8

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT:

CFM-HTG: 3,600

CFM-CLG: 0

MIN %OA: 100

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: DUNHAM/BUSH

UNIT MODEL: HAH-32

SUPPLY FAN HP: 1.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 6C145TTDR7033B

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7654

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: SPACE HEAT & DHW



**BOILER**

BOILER TAG: BLR-1

BOILER TYPE: MED PRESS STEAM (15# TO 125#)

FUEL TYPE:



**CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



**CENTRAL PLANT DIRECT**

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 17

BOILER MFG: PAWNEE

UNIT MODEL: A-250

BLR CAP OUTPUT (BTUH): 6,900,000

BLR CAP INPUT (BTUH): 8,625,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7654

BOILER RM LOCATION: MEZZ

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: BB RADIATION

☐☐ BOILER

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☒ CONVERTER

CONVERTER TAG: CV-1

CONVERTER TYPE: STM TO HTHW

CONV HT SOURCE: \_\_\_\_\_

☐

CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 17

BOILER MFG: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 0

UNIT MODEL: \_\_\_\_\_

BLR CAP INPUT (BTUH): 0

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 23

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: 1

PUMP HP: 1.5

PUMP MFG: U.S. ELECTRICAL

PUMP SERVICE: HW PUMP

PUMP MODEL: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: AJN

**REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS**

BLDG NUMBER: 7654

BLDG NAME: ENL PERS DIN

REF. UNIT NUMBER/TAG: CH-1

LOCATION (MER#): AHU-1, 2

AHU'S SERVED:

UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

**NAMEPLATE**

CHILLER MFG:	TSI	TOWER MFG:	TSI
CHILLER MODEL:	SC2CD805	# OF TOWER FANS:	6
CHILLER SERIAL NO:	7995-4	TOWER FAN V:	208
CHILLER V:	208	TOWER FAN AMPS:	25
CHILLER AMPS:	135	TOWER FAN HP:	1
CHILLER PH:	3		
CHILLER CAP (TONS):	71		

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 23

MONTHS SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐TEMP LITE HI: ☐

OTHER INDICATIONS:

PRESS LITE LOW: ☐TEMP LITE LOW: ☐PRESS GAUGES: ☐TEMP GAUGES: ☐

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 5

PUMP MFG: DAYTON

PUMP SERVICE: CW PUMP (Chilled Water)

PUMP MODEL: 2N937-H

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7654

FILE: 7654.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MEZZANINE				
AHU TYPE:	SZ	MFG.:	DUNHAM BUSH	MODEL:	HAH-80		
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)				
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System				
DD - Dual Duct	UH - Unit Heater		IND - Induction System				
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS: N/A			
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:X
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT:
PREHEAT COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:
COMMENTS:							
2" CW CONTROL VALVE (3-WAY)							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7654

FILE: 7654.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	MEZZANINE					
AHU TYPE:	SZ	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	*
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	*DAMPER ACTUATOR LINKAGE IS DISCONNECTED. ACTUATOR						DPR-ACT = Damper Actuator	
	CONTROLS OA & RA DAMPERS. AHU IS VERY DIRTY.						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK:	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A		
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:		N/A		
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:
PREHEAT COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:							RP-ACT = Replace Actuator	
						RP-BD = Replace Body		
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:		6'-3" CW PIPE		
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:	PIPE INSULATION IS DAMAGED							



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

8 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

BLDG:

**7654**

FILE:

7654.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	MAU-1	LOCATION (Rm)	KITCHEN MEZZANINE					
AHU TYPE:	MAU	MFG.:	DUNHAM BUSH	MODEL:	HAH-32			
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:					
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:	8' @ 2"			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7654

FILE: 7654.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	MAU-2	LOCATION (Rm)	MEZZANINE				
AHU TYPE:	MAU	MFG.:	DUNHAM-BUSH	MODEL:	HAH-80		
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: *	RP- ACT:
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS: *ACTUATOR DISABLED							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS: R-11 INSULATION ON ROOF							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 15' @ 2-1/2"			
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS: INSULATION POOR IN SPOTS							

LOCATION: FT. RILEY, KANSAS

AJN

7654

FILE: 7654.XLS

## 531

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 8 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN  
FILE: 7654.XLS

FILE: 7654.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7654

FILE: 7654.XLS

BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS				
BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)		
BOILER TYPE:	STM	MFG.: SUPERIOR	MODEL: A-250	
CONVERTER TYPE:		MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X	REPLACE:
COMMENTS: BURNER CONTROLS WORK OK				
BLR PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: BOILER FEED PUMP
BLR PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X*	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X*	MISSING:	ESTIMATED QUANTITY:
COMMENTS: *ACM INSUL.				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7654

FILE: 7654.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-1,2	LOCATION (RM)	KITCHEN MEZZANINE	
BOILER TYPE:	TYPICAL OF 2	MFG.:	SUPERIOR	MODEL:
CONVERTER TYPE:	DHW STM/HW	MFG.:		MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor		
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:	CONTROL VALVE GOOD			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY: ASBESTOS
CV PIPE INSUL.	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:
COMMENTS:	10' @ 1-1/2", 5' @ 4"			

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7654

FILE: 7654.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-3	LOCATION (RM)	MEZZANINE	
BOILER TYPE:	MFG.:		MODEL:	
CONVERTER TYPE:	STM/HW	MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:	4' -4" X 6" CONVERTER			
PERIMETER RADIATION W/MANUAL SHUT-OFF VALVES				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS: NOT BOLTED TO PAD, WIRES HANGING OUT.				
CV PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
CV PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 2' X 10"
CV PIPE INSUL.	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 3' X 3"
COMMENTS: VALVE GOOD, PUMP UN-INSULATED				





**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: JM/AJN

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 7804 BLDG NAME: ENL PERS DIN

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 13,493

GAS METER: ☐ N

SUSPECT ACM: ☐ Y

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 23

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

**REMARKS:**

SUSPECT ACM LOCATED ON BOILER FLUE

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7804  
AHU NUMBER: AHU-1 AHU LOCATION: MEZZ  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: DINNING  
% OF BLDG AREA HEATED: 25

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 7,000  
MIN %OA: 30

CFM-CLG: 7,000  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: DUNHAM/BUSH UNIT MODEL: HAH-80  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: CENTURY RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 6-322465-01 RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	STEAM	<input checked="" type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 70 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 70 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 70 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 70 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☒ IMPLEMENT DEMAND LIMIT CNTRLs? ☐  
MAX OA DMPR CONTROL: ☒ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☒ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN

## AIR HANDLING UNIT SURVEY OBSERVATIONS

BUILDING NUMBER: 7804  
AHU NUMBER: AHU-2  
AHU LOCATION: MEZZ  
REFRIG SYS # SRVNG AHU: CH-1  
SERVES AREA: DINNING  
% OF BLDG AREA HEATED: 25

AHU UNIT TYPE SINGLE ZONE  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 7,250  
MIN %OA: 30  
CFM-CLG: 7,250  
MAX %OA: 100

## NAMEPLATE

UNIT MFG: DUNHAM/BUSH  
UNIT MODEL: HAH-80  
SUPPLY FAN HP: 5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: BALDOR  
RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL:  
RET/EXH FAN MTR MODEL:  
COMMENTS:

## COILS

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	STEAM	<input checked="" type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

## SCHEDULE

DAY SCHEDULE NO: 23  
MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: ☒ FEB: ☒ MAR: ☒ APR: ☒ MAY: ☒ JUN: ☒ JUL: ☒ AUG: ☒ SEP: ☒ OCT: ☒ NOV: ☒ DEC: ☒

## CONTROLS

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 60  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ Y  
RET AIR DMPR CONTROL: ☐ Y  
EXH AIR DMPR CONTROL: ☐ N  
MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N  
IMPLEMENT DEMAND LIMIT CNTRLS? ☐ N  
TIME CLOCK: ☐ N  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7804

AHU NUMBER: HV-1

AHU LOCATION: MEZZ

REFRIG SYS # SRVNG AHU:

SERVES AREA: KITCHEN

% OF BLDG AREA HEATED: 75

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 11,400

CFM-CLG: 0

MIN %OA: 100

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: DUNHAM/BUSH

UNIT MODEL: HAH-80

SUPPLY FAN HP: 5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 60

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM OCC: 0

OTHER SETPOINT DESCRIP:

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLs? ☐MAX OA DMPR CONTROL: ☒ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7804  
AHU NUMBER: HV-2  
AHU LOCATION: ABOVE CEILING KITCHEN  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: KITCHEN  
% OF BLDG AREA HEATED: 8

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,600  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: DUNHAM/BUSH  
SUPPLY FAN HP: 1.5  
SUPPLY FAN MTR MFG: MARATHON  
SUPPLY FAN MTR MODEL: 6C145TTDR7033B  
COMMENTS:   
UNIT MODEL: HAH-32  
RET/EXH FAN HP: 0  
RET/EXH FAN MTR MFG:   
RET/EXH FAN MTR MODEL:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
THERMOSTAT TYPE:   
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ Y  
RET AIR DMPR CONTROL: ☐ N  
EXH AIR DMPR CONTROL: ☐ N  
MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N  
IMPLEMENT DEMAND LIMIT CNTRLs? ☐ N  
TIME CLOCK: ☐ N  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7804

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: SPACE HEAT & DHW



**BOILER**

BOILER TAG: BLR-1

BOILER TYPE: MED PRESS STEAM (15# TO 125#)

FUEL TYPE:



**CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION:

17

BOILER MFG: PAWNEE

UNIT MODEL: A-250

BLR CAP OUTPUT (BTUH):

6,900,000

BLR CAP INPUT (BTUH):

8,625,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 10

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7804

BOILER RM LOCATION: MEZZ

**BOILER UNIT**

— SOURCE OF BLDG HEAT — BLR/CONVERTER SERVES AREA OR SERVICE: BB RADIATION

☐ ☐ **BOILER**  
BOILER TAG: \_\_\_\_\_  
BOILER TYPE: \_\_\_\_\_  
FUEL TYPE: \_\_\_\_\_

☒ **CONVERTER**  
CONVERTER TAG: CV-1  
CONVERTER TYPE: STM TO HTHW  
CONV HT SOURCE: \_\_\_\_\_

☐ **CENTRAL PLANT DIRECT**

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 17

BOILER MFG: \_\_\_\_\_ BLR CAP OUTPUT (BTUH): 0  
UNIT MODEL: \_\_\_\_\_ BLR CAP INPUT (BTUH): 0  
COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 23 MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON: JAN: ☒ FEB: ☒ MAR: ☒ APR: ☒ MAY: ☐ JUN: ☐ JUL: ☐ AUG: ☐ SEP: ☐ OCT: ☒ NOV: ☒ DEC: ☒

**CONTROLS**

TYPE OF BLR CONTROLS: PNEUMATIC RESET CONTROLS: N  
OPERATING SETPOINT: 0 DEG F or PSIG  
TYPE OF BURNER CONTROLS: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: 1 PUMP HP: 1.5 PUMP MFG: U.S. ELECTRIC  
PUMP SERVICE: HW PUMP PUMP MODEL: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN

**REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS**

BLDG NUMBER: 7804

BLDG NAME: ENL PERS DIN

REF. UNIT NUMBER/TAG: CH-1

LOCATION (MER#): MER

AHU'S SERVED: AHU-1, 2

UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

**NAMEPLATE**

CHILLER MFG: TSI  
CHILLER MODEL: SC2CD80S  
CHILLER SERIAL NO: 7995-4  
CHILLER V: 208  
CHILLER AMPS: 25  
CHILLER PH: 3  
CHILLER CAP (TONS): 73.8

TOWER MFG: MCQUAY PERTEX  
# OF TOWER FANS: 6  
TOWER FAN V: 208  
TOWER FAN AMPS: 3  
TOWER FAN HP: 1

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 23

MONTHS SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐TEMP LITE HI: ☐

OTHER INDICATIONS:

PRESS LITE LOW: ☐TEMP LITE LOW: ☐PRESS GAUGES: ☐TEMP GAUGES: ☐

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1

PUMP HP: 5

PUMP MFG: DAYTON

PUMP SERVICE: CW PUMP (Chilled Water)

PUMP MODEL: 2N937-H



**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

BLDG:

7804

FILE:

7804.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MEZZ ABOVE KITCHEN					
AHU TYPE:		MFG.:	TRANE CLIMATE CHANGER	MODEL:	L-14			
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	O. A. AND R. A. INTERLOCKED						DPR-ACT = Damper Actuator	
							RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS: LINCOLN 3 HP					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:					
COMMENTS:	COIL SECTION CASING IS TAPED UP WITH DUCT TAPE							
	NEW COILS							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE: 2.5"	CNTLVLV	OK: X	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE: 2"	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:	COOLING CONTROL VALVE HAS LEAKY STEM						RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY: POOR CONDITION (ALL)				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

7 Nov-94

PREPARED BY:

CWW

CHECKED BY:

BLDG:

**7804**

FILE:

7804.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	MEZZ ABOVE REST ROOM					
AHU TYPE:	SZ	MFG.:	TRANE CLIMATE CHANGER	MODEL:	L-14			
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS: 3 HP					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:					
COMMENTS: CHILLED WATER PUMP O.K. 5HP, UNINSULATED, RUSTED								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: **	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS: ** LEAKING								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 10' OF 2-1/2"				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7804

FILE: 7804.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	MAU-1	LOCATION (Rm)	MEZZ ABOVE KITCHEN					
AHU TYPE:	MAU	MFG.:				MODEL:		
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:		TRANE: TORRIVENT MOD # T-10					DPR-ACT = Damper Actuator	
		MARATHON ELECTRIC 1-1/2 HP					RP-ACT = Replace Actuator	
		FACE AND BYPASS DAMPER						
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE: CLEAN COIL	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:		RP-ACT = Replace Actuator						
		RP-BD = Replace Body						
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: POOR	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7804

FILE: 7804.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	MAU-2	LOCATION (Rm)	MEZZ ABOVE RESTROOM					
AHU TYPE:	MAU	MFG.:	TRANE TORRIVENT	MODEL:	T-21			
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT: X	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	LINCON 5-HP						DPR-ACT = Damper Actuator	
	FACE AND BYPASS, ACTUATOR AND LINKAGE DISSABLED, WIRED INTO BYPASS MODE						RP- ACT = Replace Actuator	
	NEEDS TO BE CLEANED, FILTER ~1/2" DUST							
FILTER SECTION	N/A:	OK: X	REPLACE: FILTERS	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE: LINCOLN		COMMENTS: 5 HP				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:	CONTROL VALVE, 2-WAY STEAM						RP- ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: POOR	ESTIMATED QUANTITY:	12' @ 2"			
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:	COIL HAS BEEN DISABLED							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

FILE: 7804.XLS

BLDG: 7804

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7804

FILE: 7804.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)			
BOILER TYPE:	STM	MFG.:	SUPERIOR	MODEL:	2-5-253 SERIAL - 5161
CONVERTER TYPE:		MFG.:		MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter		
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:	
COMMENTS:	POWER BURNER				
	MIN VALVE CAP = 2224 LBS/HR				
	10 PSI APPROX. 15 PSI MAX				
	STEAM DUMPING TO MER; ASBESTOS ON FLUE				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:	
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:	
COMMENTS:					
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:	
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 30' @ 4"	
COMMENTS:					
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:	
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:	
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
COMMENTS:					
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:	
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:	
COMMENTS:					
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:	
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:	
COMMENTS:					

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7804

FILE: 7804.XLS

BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS				
BOILER/CONVERTER NO.	CV-1	LOCATION (RM)	MEZZANINE ABOVE KITCHEN	
BOILER TYPE:	TYPICAL OF 2	MFG.:	MODEL:	
CONVERTER TYPE:	STM/HW	MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:	DOMESTIC HW, 2-WAY CONTROL VALVE ON STM			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7804

FILE: 7804.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-3	LOCATION (RM)	MEZZ ABOVE RESTROOM	
BOILER TYPE:		MFG.:	MODEL:	
CONVERTER TYPE:	STM/HW	MFG.:	DUNHAM-BUSH	MODEL: SC63-2 BASE BOARD RAD 1969 8"x40"
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: 3/4 HP
CV PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: DAMAGED
CV PIPE INSUL.	N/A:	OK:	MISSING:	ESTIMATED QUANTITY: *
COMMENTS: * DAMAGED 5' ON CONVERTER PUMP 1-1/2"				



**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7804

FILE: 7804.XLS

AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS									
AHU NO.:	RAD-1	LOCATION (Rm)							
AHU TYPE:	MFG.:		MODEL:						
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater		IND - Induction System						
O.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:		
R.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:		
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:		
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:		
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:		
COMMENTS:		MANUAL SHUTOFF VALVES UNDER WINDOWS					DPR-ACT = Damper Actuator		
							RP-ACT = Replace Actuator		
FILTER SECTION	N/A:	OK:	REPLACE:	SIZE:					
COMMENTS:									
SUPPLY AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:					
SUPPLY FAN MOTOR	OK:	REPLACE: LINCON		COMMENTS:					
INLET VANES	N/A:	OK:	COMMENTS:						
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:					
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:					
COMMENTS:									
COOLING COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:	
HEATING COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:	
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:	
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:	
COMMENTS:							RP-ACT = Replace Actuator		
							RP-BD = Replace Body		
AHU PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:					
AHU PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:					
COMMENTS:									
PIPE INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:					
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:					
COMMENTS:									



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: JM/AJN/CWW

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 7856

BLDG NAME: ENL PERS DIN

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 13,493

GAS METER: ☐ Y

SUSPECT ACM: ☐ Y

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 23

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

**REMARKS:**

SUSPECT ACM LOCATED ON BOILER FLUE.

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: JM/AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7856

AHU NUMBER: AHU-1

AHU LOCATION: MEZZ

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: DINNING

% OF BLDG AREA HEATED: 25

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 7,000

CFM-CLG: 7,000

MIN %OA: 30

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: DUNHAM/BUSH

UNIT MODEL: HAH-80

SUPPLY FAN HP: 5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: CENTURY

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 6-322465-01

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	STEAM	<input checked="" type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 70

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 70

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 70

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 70

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: Y

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: JM/AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7856  
AHU NUMBER: AHU-2 AHU LOCATION: MEZZ  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: DINNING  
% OF BLDG AREA HEATED: 25

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 7,250  
MIN %OA: 30

CFM-CLG: 7,250  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: DUNHAMN/BUSH UNIT MODEL: HAH-80  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: BALDOR RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	STEAM	<input checked="" type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 60 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7856  
AHU NUMBER: HV-1 AHU LOCATION: MEZZ  
REFRIG SYS # SRVNG AHU: SERVES AREA: KITCHEN  
% OF BLDG AREA HEATED: 25

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 11,400  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: 11400 UNIT MODEL: 0  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: MARATHON RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 60 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRL? N  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/10/94

PREPARED BY: JM/AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7856

AHU NUMBER: HV-2

AHU LOCATION: ABOVE CEILING KITCHEN

REFRIG SYS # SRVNG AHU:

SERVES AREA: KITCHEN

% OF BLDG AREA HEATED: 8

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,600

CFM-CLG: 0

MIN %OA: 100

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: DUNHAM/BUSH

UNIT MODEL: HAH-32

SUPPLY FAN HP: 1.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 6C145TTDR7033B

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 23

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN/CWW

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7856

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: \_\_\_\_\_

☒ **BOILER** ☐ **CONVERTER**  
BOILER TAG: BLR-1 CONVERTER TAG: \_\_\_\_\_  
BOILER TYPE: MED PRESS STEAM (15# TO 125#) CONVERTER TYPE: \_\_\_\_\_  
FUEL TYPE: NAT. GAS CONV HT SOURCE: \_\_\_\_\_

☐ CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 17

BOILER MFG: PAWNEE BLR CAP OUTPUT (BTUH): 6,900,000  
UNIT MODEL: A-250 BLR CAP INPUT (BTUH): 8,625,000

COMMENTS: \_\_\_\_\_

### SCHEDULE

DAYS SCHEDULE NO: 10 MONTH SECHDULE NO: 3  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	0	0	0	0	0	0
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: PNEUMATIC RESET CONTROLS: N  
OPERATING SETPOINT: 0 DEG F or PSIG  
TYPE OF BURNER CONTROLS: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7856

BOILER RM LOCATION: MEZZ

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: BB RADIATION

☐☐ **BOILER**

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☒ **CONVERTER**

CONVERTER TAG: CV-1

CONVERTER TYPE: STM TO HTHW

CONV HT SOURCE: \_\_\_\_\_

☐

CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: \_\_\_\_\_

17

BOILER MFG: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): \_\_\_\_\_

0

UNIT MODEL: \_\_\_\_\_

BLR CAP INPUT (BTUH): \_\_\_\_\_

0

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 23

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: 1

PUMP HP: 1.5

PUMP MFG: U.S. ELECTRICAL

PUMP SERVICE: HW PUMP

PUMP MODEL: \_\_\_\_\_

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/10/94  
PREPARED BY: JM/AJN/CWW

### REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS

BLDG NUMBER: 7856 BLDG NAME: ENL PERS DIN  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): MER  
AHU'S SERVED: AHU-1, 2  
UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

### NAMEPLATE

CHILLER MFG:	TSI	TOWER MFG:	MCQUAY PERTEX
CHILLER MODEL:	SC2CD80S	# OF TOWER FANS:	6
CHILLER SERIAL NO:	7995-4	TOWER FAN V:	208
CHILLER V:	208	TOWER FAN AMPS:	25
CHILLER AMPS:	135	TOWER FAN HP:	1
CHILLER PH:	3		
CHILLER CAP (TONS):	71		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 23 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	6	5	5	5	5	5	6
REQ STOP:	24	24	24	24	24	24	24

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI: ☐ TEMP LITE HI: ☐ OTHER INDICATIONS:  
PRESS LITE LOW: ☐ TEMP LITE LOW: ☐  
PRESS GAUGES: ☐ TEMP GAUGES: ☐

CONTROLS COMMENTS:

### CW and CNW PUMPS

PUMP TAG: 1 PUMP HP: 5 PUMP MFG: DAYTON  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL: 2N937-H

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7856

FILE: 7856.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MEZZ MER				
AHU TYPE:	SZ	MFG.:	TRANE	MODEL:	L14		
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)				
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System				
DD - Dual Duct	UH - Unit Heater		IND - Induction System				
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X *	RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:	* O. A. & R. A. DAMPERS INTERLOCKED. PNEUMATIC CONTROLS.						DPR-ACT = Damper Actuator
	MINIMUM POSITION SWITCH ON O. A. - DOES NOT WORK						RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK:	REPLACE: X		COMMENTS: BEARINGS MAKING NOISE			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS: N/A			
COMMENTS:	SUPPLY FAN MOTOR - 5 HP MARATHON						
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:							RP-ACT = Replace Actuator
							RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:		6' - 1 1/2"	
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:	INSULATION MISSING ON CONDENSATE LINES						

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

8 Nov-94

PREPARED BY:

AJN

CHECKED BY:

AJN

BLDG:

7856

FILE:

7856.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	MEZZ MER					
AHU TYPE:	SZ	MFG.:	TRANE	MODEL:	L14			
SZ - Single Zone	H&V - Heating & Vnttng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X *	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:		* OA & RA DAMPERS INTERLOCKED.				DPR-ACT = Damper Actuator		
		SINGLE SETPOINT T-STATS ON ALL T-STATS - PNEUMATIC.				RP- ACT = Replace Actuator		
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A		
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:		N/A		
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:		RP-ACT = Replace Actuator						
		RP-BD = Replace Body						
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 4' OF 1-1/2" ON CONDENSATE				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:		DAMAGED VALVE INSULATION ON CHW. - 3' OF 8" INSUL.						

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7856

FILE: 7856.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	MAU-1	LOCATION (Rm)	KITCHEN MEZZ					
AHU TYPE:	MAU	MFG.:	TRANE TORRIVENT	MODEL:	T-10			
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS: FACE AND BYPASS								DPR-ACT = Damper Actuator
								RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS: STEAM COIL ONLY								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:	MARATHON ELECTRIC 1-1/2 HP			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:	N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:								RP-ACT = Replace Actuator
								RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:	10' OF 2"			
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7856

FILE: 7856.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	MAU-2	LOCATION (Rm)	LOCKER MEZZANINE					
AHU TYPE:	MAU	MFG.:	TRANE TORRIVENT	MODEL:	T21			
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	LARGE HOLES CUT IN INTAKE DUCT TO TAKE AIR FROM MEZZANINE AREA						DPR-ACT = Damper Actuator	
	~90% AIR FROM MEZZANINE, 10% FROM OUTSIDE.						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:	UNIT DISSABLED/ MOTOR GONE/ HOLES TORCHED IN UNIT							
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:							RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 5' @ 2" 12' @ 1-1/2"				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7856

FILE: 7856.XLS

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

CHILLER / EQUIP. NO.	CH-1	LOCATION (RM)	MER	SC2CD70
REFG. EQUIP. TYPE:	R-ACCU	MFG.: TSI	MODEL:	(10AD76-ACCU)
C-WCT = Centrifugal w/ Water Side Cooling Tower	R-ACCU = Reciprocating w/ Air Cooled Condensing Unit			
R-WCT = Reciprocating w/ Water Side Cooling Tower	ASB-WCT = Absorption w/ Water Side Cooling Tower			
ACCU = Air Cooled Condensing Unit	CT = Cooling Tower			
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:
COMP. MOTOR	N/A:	OK:	REPLACE:	SIZE:
COMP. MOTOR	N/A:	OK:	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A:	OK: X	REPLACE:	SIZE: 6 FANS @ 1 HR EACH
CT/ACCU FAN MTR	N/A:	OK:	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:	SPLIT SYSTEM - ACCU OUTSIDE/ COMPRESSOR INSIDE			
COOLING TOWER	N/A: X	OK:	REPLACE:	SIZE:
AIR COOLED COND.	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS:	50' OF 1-1/4" INSUL. MISSING ON LIQUID LINES			
CHILLER INSUL.	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
CHW PIPE INSUL.	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 15' - 4"
COMMENTS:	CHW PUMP NEEDS INSULATION			
CHW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: 5 HP CENTURY E - PLUS. *
CHW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:	* MOTOR AND PUMP NOT BOLTED DOWN - HANGING IN AIR - PIPE IS SUPPORTING ALL WEIGHT. (NEW MOTOR)			

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7856

FILE: 7856.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	STM	MFG.: AJAX	MODEL:
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER: 5HP	OK: X REPLACE:
COMMENTS:			
BLR PUMP MOTOR	N/A: X OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X OK:	REPLACE:	SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING: X ESTIMATED QUANTITY: 8' OF 4"
COMMENTS: LARGE CONDENSATE TANK UNINSULATED AT 8' x 3' DIA			
HW PUMP MOTO	N/A: X OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X OK:	REPLACE:	SIZE:
HW PUMP MOTO	N/A:	OK:	REPLACE:
HW PUMP SEALS	N/A:	OK:	REPLACE:
HW PUMP MOTO	N/A:	OK:	REPLACE:
HW PUMP SEALS	N/A:	OK:	REPLACE:
HW PUMP MOTO	N/A:	OK:	REPLACE:
HW PUMP SEALS	N/A:	OK:	REPLACE:
COMMENTS: BLOWER DAMPER ACTANTOR DISSABLED ON BOILER			
CV PUMP MOTOR	N/A: X OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X OK:	REPLACE:	SIZE:
COMMENTS:			
CV INSULATION	N/A: X OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:			



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7856

FILE: 7856.XLS

BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS				
BOILER/CONVERTER NO.	CV-1	LOCATION (RM)	KITCHEN MEZZ	
BOILER TYPE:		MFG.:	MODEL:	
CONVERTER TYPE:	STM/HW	MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:	ASBESTOS ON CONVERTER			
	DOMESTIC HOT WATER			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:	RELIEF VALVE LEAKING			
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:	ACTUATOR CONDITION = GOOD			
CV INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:
COMMENTS:	10' @ 2"; 8' @ 1-1/2"; 40' @ 3-1/2"			

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: CWW

CHECKED BY: AJM

BLDG: 7856

FILE: 7856.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-2	LOCATION (RM)	LOCKER ROOM MEZZ		
BOILER TYPE:		MFG.:	MODEL:		
CONVERTER TYPE:	STM/HW	MFG.:	MODEL:		
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Convertor		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Convertor		
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:	
COMMENTS:	DOMESTIC WATER				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:	
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:	
COMMENTS:	1/12 HP RECIRCULATING PUMP				
ASBESTOS ON CONVERTER					
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:	
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:	
COMMENTS:					
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:	
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:	
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:	
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:	
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:	
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:	
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:	
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:	
COMMENTS:					
CV PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:	
CV PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:	
COMMENTS:					
CV INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:	
CV PIPE INSUL.	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 28' @ 2-1/2"	
COMMENTS:					

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

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EMC NO.: 1406-005

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BLDG: 7856

FILE: 7856.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	CV-3	LOCATION (RM)	LOCKER MEZZ	
BOILER TYPE:	MFG.:		MODEL:	
CONVERTER TYPE:	STM/HW	MFG.: DUNHAM/BUSH	MODEL: SCA63-2-1	
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE:
COMMENTS:	6" x 3' LONG			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:	PERIMETER RAD			
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:	MANUAL SHUT OFF VALVES AND MANUAL BALANCING VALVES ON PERIMETER RAD.			
CV PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: 3/4 HP
CV PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 8' OF 2-1/2"
COMMENTS:				



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: JM

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 0723

BLDG NAME: MNT HANGAR COMB

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 21,640

GAS METER: ☐ N

SUSPECT ACM: ☐ Y

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 2

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

**REMARKS:**

Suspect ACM located on heating pipe fittings

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0723

AHU NUMBER: HV-1

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: 1ST FLR. MAINT. SHOPS

% OF BLDG AREA HEATED: 10

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 1,600

CFM-CLG: 0

MIN %OA: 100

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 0.25

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0723

AHU NUMBER: UH-1

AHU LOCATION: BAY

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: BAY

% OF BLDG AREA HEATED: 8

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 740

CFM-CLG: 0

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG: DUNHAM-BUSHCH

UNIT MODEL: VHJ-10

SUPPLY FAN HP: 0.25

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: DAYTON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 5K907B

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 70

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 70

OTHER SETPOINT DESCRIP:

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRL? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/18/94

LOCATION: FT. RILEY, KS

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0723

AHU NUMBER: UH-2

AHU LOCATION: BAY

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: BAY

% OF BLDG AREA HEATED: 8

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 740

CFM-CLG: 0

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG: DUNHAM-BUSCH

UNIT MODEL: VHU-10

SUPPLY FAN HP: 0.25

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: DAYTON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 5K907B

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 70

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 70

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0723  
AHU NUMBER: UH-3 AHU LOCATION: BAY  
REFRIG SYS # SRVNG AHU: NONE SERVES AREA: BAY  
% OF BLDG AREA HEATED: 8

AHU UNIT TYPE UNIT HEATER NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 740 CFM-CLG: 0  
MIN %OA: 0 MAX %OA: 0

**NAMEPLATE**

UNIT MFG: DUNHAM-BUSCH UNIT MODEL: VHU-10  
SUPPLY FAN HP: 0.25 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: DAYTON RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 5K907B RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLS? N  
MAX OA DMPR CONTROL: N ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/18/94

LOCATION: FT. RILEY, KS

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0723

AHU NUMBER: UH-4

AHU LOCATION: BAY

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: BAY

% OF BLDG AREA HEATED: 8

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 740

CFM-CLG: 0

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG: DUNHAM-BUSH

UNIT MODEL: VHU-10

SUPPLY FAN HP: 0.25

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: DAYTON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 5K907B

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 2

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0723

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: ALL



#### BOILER

BOILER TAG: BLR-1  
BOILER TYPE: MED PRESS STEAM (15# TO 125#)  
FUEL TYPE: NAT. GAS



#### CONVERTER

CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 90

BOILER MFG: BURNHAM  
UNIT MODEL: 4FL-311-40-LB

BLR CAP OUTPUT (BTUH): 2,603,000  
BLR CAP INPUT (BTUH): 3,254,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 2

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: Y

OPERATING SETPOINT: 10 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0723

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: BAY FLOOR

☐ ☐ BOILER ☒ CONVERTER

BOILER TAG: \_\_\_\_\_ CONVERTER TAG: CV-1

BOILER TYPE: \_\_\_\_\_ CONVERTER TYPE: STM TO HW

FUEL TYPE: \_\_\_\_\_ CONV HT SOURCE: BLR-1

☐ CENTRAL PLANT DIRECT.

### NAMEPLATE

% AREA HEATED BY BB RADIATION: \_\_\_\_\_

BOILER MFG: \_\_\_\_\_  
UNIT MODEL: \_\_\_\_\_  
COMMENTS: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 832,960  
BLR CAP INPUT (BTUH): \_\_\_\_\_

### SCHEDULE

DAYS SCHEDULE NO: 2 MONTH SECHDULE NO: 1  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:

☒ ☒ ☒ ☒ ☐ ☐ ☐ ☐ ☐ ☒ ☒ ☒

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC RESET CONTROLS: N

OPERATING SETPOINT: \_\_\_\_\_ DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 0723 BLDG NAME: MNT HANGAR COMB  
PER RAD (SYSTEM TAG) NO: RAD-1 RAD SYS LOCATION: BAY FLOOR  
SOURCE OF HEATING: CV-1 SERVES AREA: BAY FLOOR  
RADIATION UNIT TYPE: HW % AREA HTG: 32

### RADIATION PUMP

PUMP TAG: 1 PUMP HP: 0.5 PUMP MFG: BELL & GOSSETT  
PUMP MODEL: M80037

### RADIATION PUMP

PUMP TAG: 2 PUMP HP: 0.5 PUMP MFG: BELL & GOSSETT  
PUMP MODEL: M80037

### SCHEDULE

DAYS SCHEDULE NO: 2 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS: ELECTRIC

RADIATION CONTROL: 2-WAY VALVE, MANUAL O

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: N

CONTROL COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 0723	BLDG NAME: MNT HANGAR COMB
PER RAD (SYSTEM TAG) NO: RAD-2	RAD SYS LOCATION: 1ST & 2ND FLR. OFFICES
SOURCE OF HEATING: BLR-1	SERVES AREA: 1ST & 2ND FLR. OFFICES
RADIATION UNIT TYPE: STEAM	% AREA HTG: 25

### SCHEDULE

DAYS SCHEDULE NO: 2 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS: ELECTRIC

RADIATION CONTROL:

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: N

CONTROL COMMENTS:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 14 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 723

FILE: 723.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	BAY
AHU TYPE:	SZ	MFG.:	DUNHAM-BUSH
MODEL: VHU-10			
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)	
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System	
DD - Dual Duct	UH - Unit Heater	IND - Induction System	
O.A. DAMPER	N/A: X	OK:	REPLACE:
R.A. DAMPER	N/A: X	OK:	REPLACE:
E.A. DAMPER	N/A: X	OK:	REPLACE:
F. & B. DAMPER	N/A: X	OK:	REPLACE:
ZONE DAMPER	N/A: X	OK:	REPLACE:
COMMENTS: PERIMETOR RADIATION IN OFFICE AREAS WITH MANUAL CONTROL VALVES.			
DPR-ACT = Damper Actuator			
RP-ACT = Replace Actuator			
FILTER SECTION	N/A:	OK:	REPLACE *
COMMENTS: * NO FILTER, COIL EXPOSED			
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS: GE MODLE: 5KH33GG111E
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS: 1/6 HP
INLET VANES	N/A: X	OK:	COMMENTS:
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:
COMMENTS: CONDENSATE PMPS CONTINEOUSLY RUNNING AT EACH HEATING FAN COIL IN THE BAY AT 1/3 HP.			
COOLING COIL	N/A: X	OK:	REPLACE:
HEATING COIL	N/A: X	OK: X	REPLACE:
PREHEAT COIL	N/A: X	OK:	REPLACE:
REHEAT COIL	N/A: X	OK:	REPLACE:
COMMENTS: TYPICAL OF (4) UNITS IN BAY AREA			
RP-ACT = Replace Actuator			
RP-BD = Replace Body			
AHU PUMP MOTOR	N/A:	OK:	REPLACE:
AHU PUMP SEALS	N/A:	OK:	REPLACE:
COMMENTS:			
PIPE INSULATION	N/A:	OK:	MISSING: X
DUCT INSULATION	N/A: X	OK:	MISSING:
COMMENTS:			

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 723

FILE: 723.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	STM	MFG.: BURNHAM	MODEL: 4FL-311-40-LB
CONVERTER TYPE:	STM/HW	MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X
REPLACE:			
COMMENTS:			
BLR PUMP MOTOR	N/A:	OK:	REPLACE:
BLR PUMP SEALS	N/A:	OK:	REPLACE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING:
ESTIMATED QUANTITY:			
PIPE INSULATION	N/A:	OK:	MISSING: X
ESTIMATED QUANTITY: 3' @ 6" & 15' @ 4"			
COMMENTS:			
HW PUMP MOTO	N/A:	OK: X	REPLACE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:
HW PUMP MOTO	N/A:	OK: X	REPLACE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:
HW PUMP MOTO	N/A:	OK:	REPLACE:
HW PUMP SEALS	N/A:	OK:	REPLACE:
HW PUMP MOTO	N/A:	OK:	REPLACE:
HW PUMP SEALS	N/A:	OK:	REPLACE:
COMMENTS:			
CV PUMP MOTOR	N/A:	OK: X	REPLACE:
CV PUMP SEALS	N/A:	OK: X	REPLACE:
COMMENTS:			
CV INSULATION	N/A:	OK: X	MISSING:
ESTIMATED QUANTITY:			
CV PIPE INSUL.	N/A:	OK:	X
ESTIMATED QUANTITY: 30' @ 1-1/2"			
COMMENTS:			



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 0727

BLDG NAME: MNT HANGAR COMB

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 36,152

GAS METER: ☐ N

SUSPECT ACM: ☐ N

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 11

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

### REMARKS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0727  
AHU NUMBER: AHU-1 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: MAINT. SHOPS/TOOL ROOM  
% OF BLDG AREA HEATED: 12

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 5,160 CFM-CLG: 5,160  
MIN %OA: 10 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE UNIT MODEL: CCDV03APBB  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 200V RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 11 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: 0  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLs? N  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: Y ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0727  
AHU NUMBER: AHU-2 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: ACCU-1 SERVES AREA: SHOPS AND BREAKROOM  
% OF BLDG AREA HEATED: 5

AHU UNIT TYPE MAKE-UP AIR UNIT NUMBER OF ZONES IF MZ UNIT: 4

CFM-HTG: 1,175 CFM-CLG: 1,175  
MIN %OA: 10 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE UNIT MODEL: CCB12BBRBO  
SUPPLY FAN HP: 1 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: DOERR RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 11 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLS? N  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: Y ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0727  
AHU NUMBER: HV-1  
AHU LOCATION: PAINT BOOTH  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: PAINT BOOTH  
% OF BLDG AREA HEATED: 8

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,000  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 0.5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 11  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON: JAN: ☒ FEB: ☒ MAR: ☒ APR: ☒ MAY: ☐ JUN: ☐ JUL: ☐ AUG: ☐ SEP: ☐ OCT: ☒ NOV: ☒ DEC: ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0727

AHU NUMBER: UH-1

AHU LOCATION: MAINT. BAY

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: MAINT. BAY

% OF BLDG AREA HEATED: 7.5

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,800

MIN %OA: 0

CFM-CLG: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG: AIRTHERM

UNIT MODEL: 29SD2

SUPPLY FAN HP: 0.33

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: DAYTON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 11

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: OTHER

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLS? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0727

AHU NUMBER: UH-2

AHU LOCATION: MAINT. BAY

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: MAINT. BAY

% OF BLDG AREA HEATED: 7.5

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,800

MIN %OA: 0

CFM-CLG: 2,800

MAX %OA: 0

**NAMEPLATE**

UNIT MFG: AIRTHERM

UNIT MODEL: 29SD2

SUPPLY FAN HP: 0.33

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: DAYTON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 11

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: OTHER

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0727  
AHU NUMBER: UH-3  
AHU LOCATION: MAINT. BAY  
REFRIG SYS # SRVNG AHU: NONE  
SERVES AREA: MAINT. BAY  
% OF BLDG AREA HEATED: 7.5

AHU UNIT TYPE UNIT HEATER  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,800  
MIN %OA: 0  
CFM-CLG: 0  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG: AIRTHERM  
UNIT MODEL: 29SD2  
SUPPLY FAN HP: 0.33  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: DAYTON  
RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL:  
RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 11  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☐ ☐ ☐ ☐ ☐ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: OTHER  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ N  
RET AIR DMPR CONTROL: ☐ N  
EXH AIR DMPR CONTROL: ☐ N  
MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N  
IMPLEMENT DEMAND LIMIT CNTRLs? ☐ N  
TIME CLOCK: ☐ N  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0727

AHU NUMBER: UH-4

AHU LOCATION: MAINT. BAY

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: MAINT. BAY

% OF BLDG AREA HEATED: 7.5

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,800

MIN %OA: 0

CFM-CLG: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG: AIRHERM

UNIT MODEL: 29SD2

SUPPLY FAN HP: 0.33

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 11

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: OTHER

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLS? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0727

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: ALL



#### BOILER

BOILER TAG: BLR-1

BOILER TYPE: MED PRESS STEAM (15# TO 125#)

FUEL TYPE: NAT. GAS



#### CONVERTER

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 33

BOILER MFG: KEWANEE

UNIT MODEL: M-335-KGO

BLR CAP OUTPUT (BTUH): 3,350,000

BLR CAP INPUT (BTUH): 4,181,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 11

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

OPERATING SETPOINT: 10 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

RESET CONTROLS: Y

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 0727

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ADDITION

**BOILER**

BOILER TAG: BLR-2

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS

**CONVERTER**

CONVERTER TAG: \_\_\_\_\_

CONVERTER TYPE: \_\_\_\_\_

CONV HT SOURCE: \_\_\_\_\_

**CENTRAL PLANT DIRECT****NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: AJAX

UNIT MODEL: WG450D

BLR CAP OUTPUT (BTUH): 360,000

BLR CAP INPUT (BTUH): 450,000

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 11

MONTH SECHDULE NO: 3

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: 150 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: 2

PUMP HP: 3

PUMP MFG: \_\_\_\_\_

PUMP SERVICE: HW PUMP

PUMP MODEL: \_\_\_\_\_

**HW PUMP**

PUMP TAG: 1

PUMP HP: 1

PUMP MFG: \_\_\_\_\_

PUMP SERVICE: HW PUMP

PUMP MODEL: \_\_\_\_\_

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0727

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: BAY FLOOR RADIATION



☐ BOILER

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☒ CONVERTER

CONVERTER TAG: CV-1

CONVERTER TYPE: STM TO HW

CONV HT SOURCE: BLR-1



CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 33

BOILER MFG: \_\_\_\_\_

UNIT MODEL: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): \_\_\_\_\_

BLR CAP INPUT (BTUH): \_\_\_\_\_

COMMENTS: \_\_\_\_\_

#### SCHEDULE

DAYS SCHEDULE NO: 11

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: \_\_\_\_\_ DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 0727 BLDG NAME: MNT HANGAR COMB  
PER RAD (SYSTEM TAG) NO: RAD-1 RAD SYS LOCATION: BAY FLOOR  
SOURCE OF HEATING: BLR-1 SERVES AREA: BAY FLOOR  
RADIATION UNIT TYPE: HW % AREA HTG: 33

### RADIATION PUMP

PUMP TAG: 1 PUMP HP: 1.5 PUMP MFG: CENTURY  
PUMP MODEL: SC-1845-FC4-7

### RADIATION PUMP

PUMP TAG: 2 PUMP HP: 1.5 PUMP MFG: CENTURY  
PUMP MODEL: SC-1845-FC4-7

### SCHEDULE

DAYS SCHEDULE NO: 11 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS: ELECTRIC  
RADIATION CONTROL:  
OCC HT SPACE SP: 0  
UNOCC HT SPACE SP: 0  
RESET CONTROL: N  
CONTROL COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 0727 BLDG NAME: MNT HANGAR COMB  
REF. UNIT NUMBER/TAG: ACCU-1 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: AHU-2  
UNIT TYPE: AIR COOLED CONDENSING UNIT, DX

### NAMEPLATE

CHILLER MFG:	TRANE	TOWER MFG:	
CHILLER MODEL:	RAUC-306-B	# OF TOWER FANS:	1
CHILLER SERIAL NO:		TOWER FAN V:	208
CHILLER V:	208	TOWER FAN AMPS:	2.5
CHILLER AMPS:	13	TOWER FAN HP:	0.33
CHILLER PH:	0		
CHILLER CAP (TONS):	16		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 11 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0  
CWR SETPOINT: 0

CNWS SETPOINT: 0  
CNWR SETPOINT: 0

PRESS LITE HI: ☐  
PRESS LITE LOW: ☐  
PRESS GAUGES: ☐

TEMP LITE HI: ☐  
TEMP LITE LOW: ☐  
TEMP GAUGES: ☐

OTHER INDICATIONS:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

## REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS

BLDG NUMBER: 0727 BLDG NAME: MNT HANGAR COMB  
REF. UNIT NUMBER/TAG: ACCU-2 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: AHU-1  
UNIT TYPE AIR COOLED CONDENSING UNIT, DX

## NAMEPLATE

CHILLER MFG:	TRANE	TOWER MFG:	
CHILLER MODEL:	RAUB-C153-A	# OF TOWER FANS:	1
CHILLER SERIAL NO:		TOWER FAN V:	0
CHILLER V:	230	TOWER FAN AMPS:	0
CHILLER AMPS:	71.4	TOWER FAN HP:	0.33
CHILLER PH:	0		
CHILLER CAP (TONS):	15		
COMMENTS:			

## SCHEDULE

DAYS SCHEDULE NO: 11 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI: ☐ TEMP LITE HI: ☐ OTHER INDICATORS:  
PRESS LITE LOW: ☐ TEMP LITE LOW: ☐  
PRESS GAUGES: ☐ TEMP GAUGES: ☐

CONTROLS COMMENTS:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 14 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 727

FILE: 727.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1	LOCATION (Rm)	BAY					
AHU TYPE:	FC-2P	MFG.:	AIRTHERM	MODEL:	295D2			
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
COMP. MOTOR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMP. MOTOR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMP. MOTOR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMP. MOTOR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
CT/ACCU FAN MTR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
CT/ACCU FAN MTR	TYPICAL OF (4) UNDERFLOOR HEAT WORKING						DPR-ACT = Damper Actuator	
CT/ACCU FAN MTR							RP-ACT = Replace Actuator	
FILTER SECTION	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS: 1/3 HP				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	MANUAL	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS: CONDENSATE DRAINS ON TO FLOOR. CONDENSATE PUMP								
MISSING. OTHER CONDENSATE PUMP WITH BAD BEARING AT 1/3 HP.								
(2) LEAKY CONDENSATE TANKS.								
AHU PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 14 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 727

FILE: 727.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	MER NORTH					
AHU TYPE:	SZ	MFG.:	TRANE CLIMATE CHANGER	MODEL:	CCDB03APBB			
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMP. MOTOR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMP. MOTOR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
CT/ACCU FAN MTR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
CT/ACCU FAN MTR	FAIRLY NEW UNIT						DPR-ACT = Damper Actuator	
CT/ACCU FAN MTR	OA AND RA DAMPER INTERLOCKED.						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE: BAD BEARINGS		COMMENTS: CENTURY 1 HP				
INLET VANES	N/A: X	OK:	COMMENTS: SQUELS ON AND OFF					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL DX	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
HEATING C STM	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:	8' @ 1"			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								



**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 14 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 727

FILE: 727.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-3	LOCATION (Rm)	SOUTH MER					
AHU TYPE:	MZ-4	MFG.:	TRANE CLIMATE CHANGER	MODEL:	CCBB12BBKB0			
SZ - Single Zone	H&V - Heating & Vntltn.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:	
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
COMP. MOTOR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
COMP. MOTOR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
CT/ACCU FAN MTR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
CT/ACCU FAN MTR	SUMMER/WINTER SWITCH, DAY/NIGHT SWITCH						DPR-ACT = Damper Actuator	
CT/ACCU FAN MTR							RP-ACT = Replace Actuator	
LOCKED IN THE 100% RA POSITION								
FILTER SECTION	N/A:	OK:	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS: DOERR 5 HP				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL DX	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP-ACT: RP-BD:	
HEATING COIL HW	N/A:	OK: X	REPLACE:	SIZE: 3/4"	CNTLVLV	OK: X	RP-ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:	EST 5 HP			
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:	LOOKS NEW			
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 10 Nov-94  
PREPARED BY: AJN  
CHECKED BY: AJN

FILE: 727.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

FILE: 727.XLS

BLDG: 727

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 727

FILE: 727.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER (E)
BOILER TYPE:	STM	MFG.: KEWANEE	MODEL: M335-K60
CONVERTER TYPE:	STM/HW	MFG.: 5'x10"	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: REPLACE:
COMMENTS:	UV SENSOR		
CT/ACCU FAN MTR	N/A: X	OK:	REPLACE: SIZE:
CT/ACCU FAN MTR	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING: X ESTIMATED QUANTITY: 10'@10" 15'@6"
COMMENTS:			
HW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE: 1.5 HP (OLD) CENTURY
HW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE: 1.5 HP (OLD) CENTURY
HW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:	PUMPS UNINSULATED AND ASSOICATED PIPING VERY RUSTED		
CONTROL VALVE OK			
CV PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
CV PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A:	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 14 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN

BLDG: 727

FILE: 727.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-2	LOCATION (RM)	MER SOUTH	
BOILER TYPE:	HW	MFG.:	AJAX	MODEL: WG-150-D
CONVERTER TYPE:		MFG.:		MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC: X	POWER:	OK:	REPLACE:
COMMENTS:	ATMOSPHERIC BURNER WITH POWER EXHAUST			
CT/ACCU FAN MTR	N/A: X	OK:	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:	BOILER RUSTED			
* SEE AHU-3				
* HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:	SUPPLY AREA HAS UNIT HEATERS (2) . POWER TRAIN HAS (2)			
SHEET METAL HAS (4) PAINT SHOP HAS (1)				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM

**BUILDING DATA SURVEY OBSERVATIONS**BLDG NUMBER: 0741BLDG NAME: MNT HANGAR COMBELECTRIC METER: ☐ NCONDITIONED SQFT: 38,898GAS METER: ☐ YSUSPECT ACM: ☐ N**BUILDING OCCUPANCY SCHEDULE**BUILDING SCHEDULE NO: 24

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRES STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
REQ START:	<u>0</u>	<u>8</u>	<u>7</u>	<u>8</u>	<u>7</u>	<u>8</u>	<u>0</u>
REQ STOP:	<u>0</u>	<u>17</u>	<u>17</u>	<u>17</u>	<u>15</u>	<u>17</u>	<u>0</u>

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0741

AHU NUMBER: AHU-1

AHU LOCATION: BAY

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: ALL

% OF BLDG AREA HEATED: 25

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT:

CFM-HTG: 14,200

MIN %OA: 0

CFM-CLG: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG: MCQUAY

UNIT MODEL: 71136-L-1/71136-L-

SUPPLY FAN HP: 5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: DOERR

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 30004

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 24

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	8	7	8	7	8	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 65

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLS? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0741  
AHU NUMBER: AHU-2  
AHU LOCATION: BAY  
REFRIG SYS # SRVNG AHU: NONE  
SERVES AREA: ALL  
% OF BLDG AREA HEATED: 25

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT: 1

CFM-HTG: 14,200  
MIN %OA: 0

CFM-CLG: 0  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG: MCQUAY  
UNIT MODEL: 71136-L1/71136-L-  
SUPPLY FAN HP: 5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: DOERR  
RET/EXH FAN MTR MFG: 30004  
SUPPLY FAN MTR MODEL: 30004  
RET/EXH FAN MTR MODEL: 30004  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 24  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	8	7	8	7	8	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 65  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ N  
RET AIR DMPR CONTROL: ☐ N  
EXH AIR DMPR CONTROL: ☐ N  
MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N  
IMPLEMENT DEMAND LIMIT CNTRLs? ☐ N  
TIME CLOCK: ☐ N  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0741

AHU NUMBER: AHU-3

AHU LOCATION: BAY

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: ALL

% OF BLDG AREA HEATED: 25

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT: 1

CFM-HTG: 14,200

MIN %OA: 0

CFM-CLG: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG: MCQUAY

UNIT MODEL: 71136-L-1/71136-L-

SUPPLY FAN HP: 5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: DOERR

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 30004

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 24

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	8	7	8	7	8	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 65

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/18/94

LOCATION: FT. RILEY, KS

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0741

AHU NUMBER: AHU-4

AHU LOCATION: BAY

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: ALL

% OF BLDG AREA HEATED: 25

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 14,200

CFM-CLG: 0

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG: MCQUAY

UNIT MODEL: 71136-L-1/71136-L-

SUPPLY FAN HP: 5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: DOERR

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 30004

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 24

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	8	7	8	7	8	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 65

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLS? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0741

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: ALL



#### BOILER

BOILER TAG: BLR-1  
BOILER TYPE: MED PRESS STEAM (15# TO 125#)  
FUEL TYPE: NAT. GAS



#### CONVERTER

CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: BURNHAM  
UNIT MODEL: 4FL675A40LB

BLR CAP OUTPUT (BTUH): 5,657,000  
BLR CAP INPUT (BTUH): 7,071,000

COMMENTS: 5 HP BURNER MOTOR, 2EA 1 HP COND. PUMPS

### SCHEDULE

DAYS SCHEDULE NO: 24

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	8	7	8	7	8	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 10 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
 CLIENT CONTRACT NO.: DACA 01-94-D-0033  
 LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 741

FILE: 741.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1-4	LOCATION (Rm)	BAY WALL				
AHU TYPE:	FC 2P	MFG.:	MCQUAY	MODEL:	71136-L-2		
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS: ELECTRODYNAMICS				
INLET VANES	N/A: X	OK:	COMMENTS: 440V @ 6.8A				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:				
COMMENTS:							
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: *	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS: *MANUAL							
RP-ACT = Replace Actuator							
HAS 6 SINDOW AC'S FOR OFFICES IN BAY AREA. CONDENSORS IN B							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:	25' @ 4" EA UNIT		
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS: LOOKS LIKE INSULATION IS BEING RE-DONE. THESE UNITS ARE ONLY HEAT SOURCE							
FOR ENTIRE BAY. PERIMETER CAST IRON RADIATORS IN WEST OFFICES AND 1 UNIT							
HEATER ONLY IN SW OFFICE.							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 741

FILE: 741.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	STM	MFG.: BURNHAM	MODEL: 4FL-675A-40-LB
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X
REPLACE:			
COMMENTS:	BOILER NOT ON AND IT IS COLD. GAS HEATER IN MER.		
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING:
ESTIMATED QUANTITY:			
PIPE INSULATION	N/A:	OK: X	MISSING:
ESTIMATED QUANTITY:			
COMMENTS:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
HW PUMP MOTOR	N/A: X	OK:	REPLACE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
COMMENTS:			
CV PUMP MOTOR	N/A: X	OK:	REPLACE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:
SIZE:			
COMMENTS:			
CV INSULATION	N/A: X	OK:	MISSING:
ESTIMATED QUANTITY:			
CV PIPE INSUL.	N/A: X	OK:	MISSING:
ESTIMATED QUANTITY:			
COMMENTS:			

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 0820

BLDG NAME: TAC EQUIP SHOP

ELECTRIC METER: ☐ Y

CONDITIONED SQFT: 20,564

GAS METER: ☐ Y

SUSPECT ACM: ☐ N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 39

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0820

AHU NUMBER: AHU-1

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: ACCU-1

SERVES AREA: ALL

% OF BLDG AREA HEATED: 45

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 4,800

MIN %OA: 12

CFM-CLG: 4,800

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE CLIMATE CHANGER

UNIT MODEL: A85F65042

SUPPLY FAN HP: 5

RET/EXH FAN HP: 5

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 39

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC/DDC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0820  
AHU NUMBER: HV-1  
AHU LOCATION: OFFICES  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: OFFICES  
% OF BLDG AREA HEATED: 20

AHU UNIT TYPE HEATING AND VENTILATING  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,400  
MIN %OA: 100  
CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 3  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 39  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLS? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0820  
AHU NUMBER: MAU-1 AHU LOCATION: MAINT. BAY  
REFRIG SYS # SRVNG AHU: SERVES AREA: MAINT. BAY  
% OF BLDG AREA HEATED: 20

AHU UNIT TYPE MAKE-UP AIR UNIT

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,100  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 3 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 39 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRL? N  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: Y ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0820

AHU NUMBER: MAU-2

AHU LOCATION: MAINT. BAYS

REFRIG SYS # SRVNG AHU:

SERVES AREA: MAINT. BAYS

% OF BLDG AREA HEATED: 20

AHU UNIT TYPE MAKE-UP AIR UNIT

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,100

CFM-CLG: 0

MIN %OA: 100

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 3

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 39

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLS? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 0820

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒ BOILER

BOILER TAG: BLR-1

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS

☐ CONVERTER

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:

☐ CENTRAL PLANT DIRECT**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 15

BOILER MFG: BURNHAM

UNIT MODEL: 4FW-277-40-LB

BLR CAP OUTPUT (BTUH): 2,318,000

BLR CAP INPUT (BTUH): 2,898,000

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 39

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS: JC DSC- 8500 CONTROL PANEL

**HW PUMP**

PUMP TAG: 1

PUMP HP: 10

PUMP MFG: US ELECTRIC

PUMP SERVICE: HW PUMP

PUMP MODEL: E810AU11U253R112F

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 0820 BLDG NAME: TAC EQUIP SHOP  
REF. UNIT NUMBER/TAG: ACCU-1 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: AHU-1  
UNIT TYPE AIR COOLED CONDENSING UNIT, DX

### NAMEPLATE

CHILLER MFG:	TRANE	TOWER MFG:	
CHILLER MODEL:	RAUC-C124-C	# OF TOWER FANS:	3
CHILLER SERIAL NO:		TOWER FAN V:	0
CHILLER V:		TOWER FAN AMPS:	2.7
CHILLER AMPS:	10.7	TOWER FAN HP:	0.75
CHILLER PH:	0		
CHILLER CAP (TONS):	12		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 39 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT:	0	CNWS SETPOINT:	0
CWR SETPOINT:	0	CNWR SETPOINT:	0

PRESS LITE HI:	<input type="checkbox"/>	TEMP LITE HI:	<input type="checkbox"/>	OTHER INDICATORS:	
PRESS LITE LOW:	<input type="checkbox"/>	TEMP LITE LOW:	<input type="checkbox"/>		
PRESS GAUGES:	<input type="checkbox"/>	TEMP GAUGES:	<input type="checkbox"/>		

CONTROLS COMMENTS:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 14 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 820

FILE: 820.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	MAU-2	LOCATION (Rm)						
AHU TYPE:	MAU	MFG.:	TRANE CLIMATE CHANGER	MODEL:	CCDB06ANOD			
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	OA & RA DAMPERS INTERLOCKED. HAS SEPARATE ACTUATOR							
	DAMPER TO CLOSE OA LOUVER.							
	4 UH'S IN BAY #2							
FILTER SECTION	N/A:	OK:	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A					
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:	RP-ACT = Replace Actuator							
	RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 14 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 820

FILE: 820.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER					
AHU TYPE:	SZ	MFG.:	TRANE CLIMATE CHANGER	MODEL:	CCDB10ABNU			
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	NO DAMPERS SEEN.						DPR-ACT = Damper Actuator	
							RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS: EST 5 HP				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS: IN-LINE @ ~16" IN DIA.				
RETURN FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
COMMENTS:	PLANS SHOW RETURN FAN AS AN OUTSIDE AIR FAN, OUTSIDE AIR DAMPERS AND							
	EXHAUST DAMPERS. COULD NOT LOCATE ON UNIT.							
COOLING COIL DX	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE: 3/4	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:	THIS BLDG. IS SIMILAR TO 8390 IN THE BAY AREAS						RP-ACT = Replace Actuator	
	(4) UNIT HEATERS IN BAY WITH (1) AHU.						RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 14 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 820

FILE: 820.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	H&V-1	LOCATION (Rm)	TOOL ROOM					
AHU TYPE:	H&V	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS: OA & RA INTERLOCKED								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS: EST 1 HP					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:					
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 14 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 820

FILE: 820.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	MAU-1	LOCATION (Rm)					
AHU TYPE:	MAU	MFG.:	TRANE CLIMATE CHANGER	TYPE: CCDB06ANOD			
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:	OA & RA DAMPERS INTERLOCKED; PNEUMATIC CONTROLS TO ACTUATOR ARE DISCONNECTED, OPERATES IN RA MODE.						DPR-ACT = Damper Actuator RP-ACT = Replace Actuator
4 UH'S IN BAY #1							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS: N/A			
COMMENTS:	1 HP MOTOR						
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:GOOD RP-BD: X
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:	DIRTY COILS; PNEUMATIC LINE TO CONTROL VALVE IS DISCONNECTED						RP-ACT = Replace Actuator RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 14 Nov-94  
PREPARED BY: AJN  
CHECKED BY: AJN

FILE: 820.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

14 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

BLDG:

820

FILE:

820.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER	
BOILER TYPE:	HW	MFG.:	BURNHAM	MODEL: 4FW-277-40-LB
CONVERTER TYPE:		MFG.:		MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: 10 HP, U.S. ELECTRIC
HW PUMP SEALS	N/A:	OK:	REPLACE: X	SIZE: 230V @ 25.2A
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE: BEARINGS BAD OR CAVITATING
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE: VERY NOISY PUMP
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM/AJN/AMS

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 1470

BLDG NAME: AR VEH MNT SHOP

ELECTRIC METER: ☒ Y

CONDITIONED SQFT: 21,667

GAS METER: ☒ Y

SUSPECT ACM: ☒ N

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 11

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

### REMARKS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 1470  
AHU NUMBER: AHU-1 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: ACCU-1 SERVES AREA: OFFICES/CLASSROOM  
% OF BLDG AREA HEATED: 8

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,500  
MIN %OA: 25

CFM-CLG: 2,500  
MAX %OA: 25

**NAMEPLATE**

UNIT MFG: TRANE UNIT MODEL: BAUA359C-B  
SUPPLY FAN HP: 0.33 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 11 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINT R OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINT R UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMP R CONTROL: N MIXED AIR DMP R CONTROL: N IMPLEMENT DEMAND LIMIT CNTRL S? N  
MAX OA DMP R CONTROL: N ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMP R CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMP R CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 1470

AHU NUMBER: AHU-2

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: ACCU-2

SERVES AREA: ADDITION OFFICES

% OF BLDG AREA HEATED: 4

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,000

MIN %OA: 20

CFM-CLG: 2,000

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: SNYDER GENERAL

UNIT MODEL: GUG141A020IN

SUPPLY FAN HP: 0.33

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS: RESIDENTIAL GAS-FIRED FURNANCE

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	GAS	<input type="checkbox"/>
REHEAT COIL:	HOT WATER	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 11

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ NMIXED AIR DMPR CONTROL: ☐ NIMPLEMENT DEMAND LIMIT CNTRLs? ☐ NMAX OA DMPR CONTROL: ☐ YECONOMIZER DB CONTROL: ☐ NTIME CLOCK: ☐ NRET AIR DMPR CONTROL: ☐ YECONOMIZER WB CONTROL: ☐ NTIME CLOCK OPERATIONAL? ☐ NEXH AIR DMPR CONTROL: ☐ N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 1470  
AHU NUMBER: MAU-1 AHU LOCATION: MAINT. BAY  
REFRIG SYS # SRVNG AHU: NONE SERVES AREA: MAINT.BAY  
% OF BLDG AREA HEATED: 5

AHU UNIT TYPE MAKE-UP AIR UNIT NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 22,200 CFM-CLG: 0  
MIN %OA: 0 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 20 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS: GAS FIRED

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	GAS	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 11 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☐ ☐ ☐ ☐ ☐ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLs? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 1470  
AHU NUMBER: UH-1  
AHU LOCATION: MAINT. BAYS  
REFRIG SYS # SRVNG AHU: NONE  
SERVES AREA: MAINT.BAYS  
% OF BLDG AREA HEATED: 55

AHU UNIT TYPE: UNIT HEATER  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 12,320  
MIN %OA: 0  
CFM-CLG: 0  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG: \_\_\_\_\_ UNIT MODEL: \_\_\_\_\_  
SUPPLY FAN HP: 1.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: \_\_\_\_\_ RET/EXH FAN MTR MFG: \_\_\_\_\_  
SUPPLY FAN MTR MODEL: \_\_\_\_\_ RET/EXH FAN MTR MODEL: \_\_\_\_\_  
COMMENTS: \_\_\_\_\_

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 11  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON: JAN: ☒ FEB: ☒ MAR: ☒ APR: ☒ MAY: ☐ JUN: ☐ JUL: ☐ AUG: ☐ SEP: ☐ OCT: ☒ NOV: ☒ DEC: ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP: \_\_\_\_\_  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ N  
RET AIR DMPR CONTROL: ☐ N  
EXH AIR DMPR CONTROL: ☐ N  
MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N  
IMPLEMENT DEMAND LIMIT CNTRLS? ☐ N  
TIME CLOCK: ☐ N  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 1470  
AHU NUMBER: UH-2 AHU LOCATION: WAREHOUSE  
REFRIG SYS # SRVNG AHU: NONE SERVES AREA: WAREHOUSE  
% OF BLDG AREA HEATED: 20

AHU UNIT TYPE UNIT HEATER NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 4,800 CFM-CLG: 0  
MIN %OA: 0 MAX %OA: 0

**NAMEPLATE**

UNIT MFG: \_\_\_\_\_ UNIT MODEL: \_\_\_\_\_  
SUPPLY FAN HP: 0.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: \_\_\_\_\_ RET/EXH FAN MTR MFG: \_\_\_\_\_  
SUPPLY FAN MTR MODEL: \_\_\_\_\_ RET/EXH FAN MTR MODEL: \_\_\_\_\_  
COMMENTS: TOTAL OF 4 FAIN COIL UNITS

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	<u>NONE</u>	<input type="checkbox"/>
HEATING COIL:	<u>HOT WATER</u>	<input type="checkbox"/>
REHEAT COIL:	<u>NONE</u>	<input type="checkbox"/>
HUMIDIFIER:	<u>NONE</u>	<input type="checkbox"/>
COOLING COIL:	<u>NONE</u>	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 11 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRES STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
REQ START:	<u>0</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>0</u>
REQ STOP:	<u>0</u>	<u>16</u>	<u>16</u>	<u>16</u>	<u>16</u>	<u>16</u>	<u>0</u>

MONTHS ON: JAN: ☒ FEB: ☒ MAR: ☒ APR: ☒ MAY: ☐ JUN: ☐ JUL: ☐ AUG: ☐ SEP: ☐ OCT: ☒ NOV: ☒ DEC: ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: \_\_\_\_\_  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 1470

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT: BLR/CONVERTER SERVES AREA OR SERVICE: ALL



#### BOILER

BOILER TAG: BLR-1  
BOILER TYPE: HW (UP TO 250 DEG)  
FUEL TYPE: NAT. GAS



#### CONVERTER

CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_



CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 8

BOILER MFG: KEWANEE

UNIT MODEL: 3R6-RO

BLR CAP OUTPUT (BTUH): 792,000

BLR CAP INPUT (BTUH): 990,000

COMMENTS: \_\_\_\_\_

### SCHEDULE

DAYS SCHEDULE NO: 11

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: Y

OPERATING SETPOINT: 145 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

### HW PUMP

PUMP TAG: 1

PUMP HP: 2

PUMP MFG: MARATHON

PUMP SERVICE: HW PUMP

PUMP MODEL: YYE145TTDR5352AA

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 1470

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL



**BOILER**

BOILER TAG: BLR-2

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_



**CONVERTER**

CONVERTER TAG: \_\_\_\_\_

CONVERTER TYPE: \_\_\_\_\_

CONV HT SOURCE: \_\_\_\_\_



**CENTRAL PLANT DIRECT**

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 8

BOILER MFG: KEWANEE

UNIT MODEL: 3R6-RO

BLR CAP OUTPUT (BTUH): 792,000

BLR CAP INPUT (BTUH): 990,000

COMMENTS: \_\_\_\_\_

### SCHEDULE

DAYS SCHEDULE NO: 11

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: Y

OPERATING SETPOINT: 145 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

### HW PUMP

PUMP TAG: 1

PUMP HP: 2

PUMP MFG: MARATHON

PUMP SERVICE: HW PUMP

PUMP MODEL: YYE145TTDR5352AA

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

**REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS**

BLDG NUMBER: 1470 BLDG NAME: AR VEH MNT SHOP  
REF. UNIT NUMBER/TAG: ACCU-2 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: AHU-2  
UNIT TYPE AIR COOLED CONDENSING UNIT, DX

**NAMEPLATE**

CHILLER MFG:	INTERCITY PRODUCTS	TOWER MFG:	
CHILLER MODEL:	AD060H	# OF TOWER FANS:	1
CHILLER SERIAL NO:		TOWER FAN V:	208
CHILLER V:	208	TOWER FAN AMPS:	2.3
CHILLER AMPS:	19.6	TOWER FAN HP:	0.33
CHILLER PH:	0		
CHILLER CAP (TONS):	5		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 11 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI: ☐ TEMP LITE HI: ☐ OTHER INDICATIONS:  
PRESS LITE LOW: ☐ TEMP LITE LOW: ☐  
PRESS GAUGES: ☐ TEMP GAUGES: ☐

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

**REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS**

BLDG NUMBER: 1470

BLDG NAME: AR VEH MNT SHOP

REF. UNIT NUMBER/TAG: ACCU-1

LOCATION (MER#): OUTSIDE

AHU'S SERVED: AHU-1

UNIT TYPE AIR COOLED CONDENSING UNIT, DX

**NAMEPLATE**

CHILLER MFG: TRANE  
CHILLER MODEL: RAUC-256-A  
CHILLER SERIAL NO:  
CHILLER V: 208  
CHILLER AMPS: 9  
CHILLER PH: 0  
CHILLER CAP (TONS): 5

TOWER MFG:  
# OF TOWER FANS: 1  
TOWER FAN V: 0  
TOWER FAN AMPS: 2.5  
TOWER FAN HP: 0.33

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 11

MONTHS SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐TEMP LITE HI: ☐

OTHER INDICATIONS:

PRESS LITE LOW: ☐TEMP LITE LOW: ☐PRESS GAUGES: ☐TEMP GAUGES: ☐

CONTROLS COMMENTS:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

BLDG: 1470

EMC NO.: 1406-005

DATE: 14 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

FILE: 1470.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER (WITH BOILERS)					
AHU TYPE:	SZ	MFG.:	TRANE SPLIT SYSTEM EVAPORATOR				MODEL: BAUA-359C-B	
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								DPR-ACT = Damper Actuator
								RP-ACT = Replace Actuator
FILTER SECTION	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS: CANNOT ACCESS								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:
HEATING COIL	N/A:	OK:	FURNACE	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:								RP-ACT = Replace Actuator
								RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 14 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 1470

FILE: 1470.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	MER
AHU TYPE: RES/FURN/AC	MFG.:	SNYDER GENERAL	MODEL: GUG 141AO20IN
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)	
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System	
DD - Dual Duct	UH - Unit Heater	IND - Induction System	
O.A. DAMPER	N/A:	OK:	REPLACE: SIZE: DPR-ACT OK: RP- ACT:
R.A. DAMPER	N/A:	OK:	REPLACE: SIZE: DPR-ACT OK: RP- ACT:
E.A. DAMPER	N/A:	OK:	REPLACE: SIZE: DPR-ACT OK: RP- ACT:
F. & B. DAMPER	N/A:	OK:	REPLACE: SIZE: DPR-ACT OK: RP- ACT:
ZONE DAMPER	N/A:	OK:	REPLACE: SIZE: DPR-ACT OK: RP- ACT:
COMMENTS:	SERVES NEW ADDITION ONLY. ELECTRIC CONTROLS WITH RA AND OA INTERLOCKED. INPUT = 141000 BTU/HR, OUTPUT = 111000 BTU/HR		
DPR-ACT = Damper Actuator RP-ACT = Replace Actuator			
FILTER SECTION	N/A:	OK: X	REPLACE: SIZE:
COMMENTS:			
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:
INLET VANES	N/A: X	OK:	COMMENTS:
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:
COMMENTS:			
COOLING COIL	N/A:	OK: X	REPLACE: SIZE: CNTLVLV OK: RP- ACT: RP-BD:
HEATING COIL	N/A:	OK:	FURNACE X SIZE: CNTLVLV OK: RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE: SIZE: CNTLVLV OK: RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE: SIZE: CNTLVLV OK: RP- ACT: RP-BD:
COMMENTS:	RP-ACT = Replace Actuator RP-BD = Replace Body		
AHU PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
AHU PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
PIPE INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
DUCT INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
COMMENTS:			



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

BLDG: 1470

EMC NO.: 1406-005

DATE: 14 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

FILE: 1470.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	UH-14	LOCATION (Rm)	WAREHOUSE					
AHU TYPE:	UH	MFG.:	TRANE	MODEL:	UH5A0605-A-AAC			
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	TYPICAL OF 4						DPR-ACT = Damper Actuator	
							RP-ACT = Replace Actuator	
FILTER SECTION	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:					
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	NONE	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:							RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 14 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 1470

FILE: 1470.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	MAU-1	LOCATION (Rm)	CEILING OF FARTHEST BAY				
AHU TYPE:	MAU	MFG.:	CANNOT ACCESS	MODEL:			
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
COMMENTS:	NATURAL GAS FIRED MAU. FOUR UNIT HEATERS (REZNER)						DPR-ACT = Damper Actuator
	IN FAR BAYS.						RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK:	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: CANNOT SEE				
SUPPLY FAN MOTOR	OK:	REPLACE:	COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS:				
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:				
COMMENTS:	(6) UNIT HEATERS IN MAIN BAY AREA. BASEBOARD RADIATION IN ALL OTHER AREAS.						
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:
HEATING COIL	N/A:	OK: X	FURNACE	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:
COMMENTS:	GE ZONE LINE HEAT PUMP IN OFFICE IN BAY AREA. 2 UNIT HEATERS						RP-ACT = Replace Actuator
	IN PARTS STORAGE						RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

FMC NO.: 1406-005

DATE: 14 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 1470

FILE: 1470.XLS

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

[illegible]

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 14 Nov-94  
PREPARED BY: AJN  
CHECKED BY: AJN  
FILE: 1470.XLS

FILE: 1470.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 14 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 1470

FILE: 1470.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1&2	LOCATION (RM)	MER	
BOILER TYPE:	HW	MFG.: KEWANEE	MODEL: 3R6-KO	
CONVERTER TYPE:		MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter		
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS: OVERALL CONDITION OF BOILERS & PUMPS = GOOD				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: 2 HP MARATHON ELECTRIC
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: 2 HP
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 11/9/94  
PREPARED BY: CWW

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 7176

BLDG NAME: MOTOR POOL MNT SHOP

ELECTRIC METER: ☐ N

CONDITIONED SQFT: 4,880

GAS METER: ☐ NSUSPECT ACM: ☐ Y**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 7

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	8	9	12	9	0
REQ STOP:	0	17	17	17	15	17	0

**REMARKS:**

SUSPECT ACM LOCATED ON ALL STEAM AND CONDENSATE PIPE

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 11/9/94

PREPARED BY: CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7176

AHU NUMBER: UH-1

AHU LOCATION: CEILING MOUNTED

REFRIG SYS # SRVNG AHU:

SERVES AREA: ALL

% OF BLDG AREA HEATED: 22

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 8,250

CFM-CLG: 0

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG: MODINE

UNIT MODEL:

SUPPLY FAN HP: 0.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS: TOTAL FOR 5 UHS

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 7

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	8	9	12	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRL? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 11/9/94  
PREPARED BY: CWW

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7176

BOILER RM LOCATION: MER

#### BOILER UNIT

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL



##### BOILER

BOILER TAG: BLR-1

BOILER TYPE: LOW PRESS STEAM (<15#)

FUEL TYPE: NAT. GAS



##### CONVERTER

CONVERTER TAG: \_\_\_\_\_

CONVERTER TYPE: \_\_\_\_\_

CONV HT SOURCE: \_\_\_\_\_



CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: NATIONAL RADIATOR

UNIT MODEL: 6-66

BLR CAP OUTPUT (BTUH): 1,000,000

BLR CAP INPUT (BTUH): 1,250,000

COMMENTS: \_\_\_\_\_

#### SCHEDULE

DAYS SCHEDULE NO: 7

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	8	9	12	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: \_\_\_\_\_ DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7176

FILE: 7176.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	UH-1	LOCATION (Rm)	CEILING (13' TO BOTTOM OF UNIT)					
AHU TYPE:	UNIT HEATER	MFG.:	MODINE	MODEL:				
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS: MANUAL ON/OFF SWITCH FOR UH'S IN BAY AREA								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A					
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK: N/A	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: N/A	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK: N/A	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK: N/A	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS: NO PIPE INSULATION - INSULATION IS NOT NECESSARY, PIPE USED TO HEAT BLDG.								
ALSO.								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 9 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7176

FILE: 7176.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	STM	MFG.:	MODEL:
CONVERTER TYPE:	MFG.: NAT-U.S. RADIATOR, CRANE CO		MODEL: Jun-66
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Convertor
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Convertor
BOILER BURNER	ATMOSPHERIC: X	POWER:	OK: X REPLACE:
COMMENTS:	BOILER IS OLD & RUSTED		
BLR PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X*	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
COMMENTS:	*ACM INSULATION		
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:			
CV PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 7920 BLDG NAME: VEH MNT SHOP DS  
ELECTRIC METER: ☐ N  
GAS METER: ☐ N  
SUSPECT ACM: ☐ N  
CONDITIONED SQFT: 124,553

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 55

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRES STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
REQ START:	<u>0</u>	<u>9</u>	<u>7</u>	<u>9</u>	<u>7</u>	<u>9</u>	<u>0</u>
REQ STOP:	<u>0</u>	<u>17</u>	<u>17</u>	<u>17</u>	<u>15</u>	<u>17</u>	<u>0</u>

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7920  
AHU NUMBER: AHU-1 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: ACCU-1 SERVES AREA: OFFICES - WING A  
% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 1,200 CFM-CLG: 1,200  
MIN %OA: 10 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 2 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS: GAS - FIRES; 27,000 BTUH INPUT; 21,600 BTUH OUTPUT

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 55 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLs? N  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: Y ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7920  
AHU NUMBER: AHU-2  
REFRIG SYS # SRVNG AHU: ACCU-2  
AHU LOCATION: MER  
SERVES AREA: OFFICES WING B  
% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 1,575  
MIN %OA: 10

CFM-CLG: 1,575  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: \_\_\_\_\_ UNIT MODEL: \_\_\_\_\_  
SUPPLY FAN HP: 2 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: \_\_\_\_\_ RET/EXH FAN MTR MFG: \_\_\_\_\_  
SUPPLY FAN MTR MODEL: \_\_\_\_\_ RET/EXH FAN MTR MODEL: \_\_\_\_\_  
COMMENTS: GAS FIRED; 45,000 BTUH INPUT; 36,700 BTUH OUTPUT

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	GAS	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 55 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: \_\_\_\_\_  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7920  
AHU NUMBER: AHU-3 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: ACCU-3 SERVES AREA: OFFICES - WING C  
% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 1,200 CFM-CLG: 1,200  
MIN %OA: 10 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 2 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS: GAS FIRED; 27,000 BTUH INPUT; 21,600 BTUH OUTPUT

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 55 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLS? N  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: Y ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:



# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

## AIR HANDLING UNIT SURVEY OBSERVATIONS

BUILDING NUMBER: 7920  
AHU NUMBER: AHU-4 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: ACCU-4 SERVES AREA: OFFICES - WING D  
% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 1,200  
MIN %OA: 10

CFM-CLG: 1,200  
MAX %OA: 100

## NAMEPLATE

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 2 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS: GAS - FIRED; 27,000 BTUH INPUT; 21,600 OUTPUT

## COILS

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

## SCHEDULE

DAY SCHEDULE NO: 55 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7920

AHU NUMBER: AHU-5

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: ACCU-5

SERVES AREA: OFFICES - WING E

% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 1,200

MIN %OA: 10

CFM-CLG: 1,200

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 2

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS: GAS FIRED; 27,000 BTUH INPUT; 21,600 BTUH OUTPUT

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 55  
SCHEDULE COMMENTS:

MONTH SCHEDULE NO: 3

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

PRESENT TEMP WINTR OCC: 0

PRESENT TEMP WINTR UNOCC: 0

PRESENT TEMP SUM OCC: 0

PRESENT TEMP SUM UNOCC: 0

MIN OA DMPR CONTROL: ☐ N

MAX OA DMPR CONTROL: ☐ Y

RET AIR DMPR CONTROL: ☐ Y

EXH AIR DMPR CONTROL: ☐ N

MIXED AIR DMPR CONTROL: ☐ N

ECONOMIZER DB CONTROL: ☐ N

ECONOMIZER WB CONTROL: ☐ N

THERMOSTAT TYPE: SINGLE SETPOINT

HOT DECK DEG F: 0

COLD DECK DEG F: 0

MIXED AIR DEG F: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

IMPLEMENT DEMAND LIMIT CNTRLS? ☐ N

TIME CLOCK: ☐ N

TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7920  
AHU NUMBER: AHU-6 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: ACCU-6 SERVES AREA: OFFICES - WING A  
% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 1,200  
MIN %OA: 10

CFM-CLG: 1,200  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 2 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS: GAS FIRED; 27,000 BTUH INPUT; 21,600 BTUH OUTPUT

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 55 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7920  
AHU NUMBER: AHU-7  
AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: ACCU-7  
SERVES AREA: OFFICES - CENTRAL  
% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,700  
MIN %OA: 10

CFM-CLG: 3,700  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: \_\_\_\_\_ UNIT MODEL: \_\_\_\_\_  
SUPPLY FAN HP: 2 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: \_\_\_\_\_ RET/EXH FAN MTR MFG: \_\_\_\_\_  
SUPPLY FAN MTR MODEL: \_\_\_\_\_ RET/EXH FAN MTR MODEL: \_\_\_\_\_  
COMMENTS: \_\_\_\_\_

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 55 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: \_\_\_\_\_  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7920

AHU NUMBER: HV-1

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: SUPPLY - WING A

% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 5,000

MIN %OA: 100

CFM-CLG: 0

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 3

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS: GAS FIRED; 439,000 BTUH INPUT; 352,000 BTUH OUTPUT

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 55

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLS? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7920

AHU NUMBER: HV-2

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: SUPPLY - WING B

% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 5,000

CFM-CLG: 0

MIN %OA: 100

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 3

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 55

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7920

AHU NUMBER: HV-3

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: SUPPLY - WING C

% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 5,000

MIN %OA: 100

CFM-CLG: 0

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 3

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS: GAS FIRED; 395,000 BTUH INPUT; 316,000 BTUH OUTPUT

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 55

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7920  
AHU NUMBER: HV-4  
AHU LOCATION: MEZZANINE  
REFRIG SYS # SRVNG AHU: NONE  
SERVES AREA: SUPPLY - WING D  
% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 5,000  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: \_\_\_\_\_ UNIT MODEL: \_\_\_\_\_  
SUPPLY FAN HP: 2 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: \_\_\_\_\_ RET/EXH FAN MTR MFG: \_\_\_\_\_  
SUPPLY FAN MTR MODEL: \_\_\_\_\_ RET/EXH FAN MTR MODEL: \_\_\_\_\_  
COMMENTS: GAS FIRED; 395,000 BTUH INPUT; 316,000 BTUH OUTPUT

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 55 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: \_\_\_\_\_  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLs? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7920  
AHU NUMBER: HV-5  
REFRIG SYS # SRVNG AHU: NONE  
AHU LOCATION: MER  
SERVES AREA: SUPPLY - WING E  
% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 5,000  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: \_\_\_\_\_ UNIT MODEL: \_\_\_\_\_  
SUPPLY FAN HP: 2 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: \_\_\_\_\_ RET/EXH FAN MTR MFG: \_\_\_\_\_  
SUPPLY FAN MTR MODEL: \_\_\_\_\_ RET/EXH FAN MTR MODEL: \_\_\_\_\_  
COMMENTS: \_\_\_\_\_

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 55 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: \_\_\_\_\_  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7920

AHU NUMBER: MAU-1

AHU LOCATION: BAY

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: WING A

% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE MAKE-UP AIR UNIT

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 20,250

MIN %OA: 100

CFM-CLG: 0

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 7.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS: GAS FIRED, 1,541,000 BTUH INPUT

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 55

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLS? ☐MAX OA DMPR CONTROL: ☒ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7920

AHU NUMBER: MAU-2

AHU LOCATION: BAY

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: WING B

% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE MAKE-UP AIR UNIT

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 19,625

CFM-CLG: 0

MIN %OA: 100

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 10

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: RELIANCE

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS: GAS FIRED; 1,493,000 BTUH INPUT

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 55

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLS? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7920  
AHU NUMBER: MAU-3 AHU LOCATION: BAY  
REFRIG SYS # SRVNG AHU: NONE SERVES AREA: WING C  
% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE MAKE-UP AIR UNIT NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 20,900 CFM-CLG: 0  
MIN %OA: 100 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 7.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS: GAS FIRED; 1,590,000 BTUH

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 55 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRL? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7920  
AHU NUMBER: MAU-4 AHU LOCATION: BAY  
REFRIG SYS # SRVNG AHU: NONE SERVES AREA: WING D  
% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE MAKE-UP AIR UNIT NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 20,900 CFM-CLG: 0  
MIN %OA: 100 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS: GAS FIRED; 1,590,000 BTUH INPUT

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 55 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLS? N  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7920  
AHU NUMBER: MAU-5 AHU LOCATION: BAY  
REFRIG SYS # SRVNG AHU: NONE SERVES AREA: WING E  
% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE MAKE-UP AIR UNIT NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 20,900 CFM-CLG: 0  
MIN %OA: 100 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS: GAS FIRED; 1,590,000 BTUH INPUT

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 55 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☐ ☐ ☐ ☐ ☐ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: 0  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRL? N  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR: 0  
CONTROLS COMMENTS: 0

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: JM/AJN/AMS

## AIR HANDLING UNIT SURVEY OBSERVATIONS

BUILDING NUMBER: 7920

AHU NUMBER: MAU-6

AHU LOCATION: BAY

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: CENTRAL

% OF BLDG AREA HEATED: 2.5

AHU UNIT TYPE MAKE-UP AIR UNIT

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 14,500

CFM-CLG: 0

MIN %OA: 100

MAX %OA: 100

## NAMEPLATE

UNIT MFG:

UNIT MODEL: 5

SUPPLY FAN HP: 0

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS: GAS FIRED; 1,101,000 BRHU INPUT

## COILS

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

## SCHEDULE

DAY SCHEDULE NO: 55

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐

MIXED AIR DMPR CONTROL: ☐

IMPLEMENT DEMAND LIMIT CNTRLs? ☐

MAX OA DMPR CONTROL: ☐

ECONOMIZER DB CONTROL: ☐

TIME CLOCK: ☐

RET AIR DMPR CONTROL: ☐

ECONOMIZER WB CONTROL: ☐

TIME CLOCK OPERATIONAL? ☐

EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7920  
AHU NUMBER: UH-1 AHU LOCATION: CEILING MOUNTED  
REFRIG SYS # SRVNG AHU: NONE SERVES AREA: CENTRAL  
% OF BLDG AREA HEATED: 18

AHU UNIT TYPE GAS-FIRED UNIT HEATER NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 20,240 CFM-CLG: 0  
MIN %OA: 0 MAX %OA: 0

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS: TOT. FOR 11 UHS; BTUH INPUT: 1,650,000; BTUH OUTPUT: 1,320,000

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 55 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON: JAN: ☒ FEB: ☒ MAR: ☒ APR: ☒ MAY: ☐ JUN: ☐ JUL: ☐ AUG: ☐ SEP: ☐ OCT: ☒ NOV: ☒ DEC: ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLs? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 7920 BLDG NAME: VEH MNT SHOP DS  
PER RAD (SYSTEM TAG) NO: RAD-1 RAD SYS LOCATION: BAYS  
SOURCE OF HEATING: NATURAL GAS SERVES AREA: WINGS A, B, C, D, & E  
RADIATION UNIT TYPE: NATURAL GAS % AREA HTG: 38

### SCHEDULE

DAYS SCHEDULE NO: 55 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS: ELECTRIC

RADIATION CONTROL:

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: ☒

CONTROL COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

## REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 7920

BLDG NAME: VEH MNT SHOP DS

REF. UNIT NUMBER/TAG: ACCU-7

LOCATION (MER#): ROOF

AHU'S SERVED: AHU-7

UNIT TYPE AIR COOLED CONDENSING UNIT, DX

## NAMEPLATE

CHILLER MFG: TRANE  
CHILLER MODEL:  
CHILLER SERIAL NO:  
CHILLER V: 0  
CHILLER AMPS: 0  
CHILLER PH: 0  
CHILLER CAP (TONS): 8

TOWER MFG:  
# OF TOWER FANS: 2  
TOWER FAN V: 230  
TOWER FAN AMPS: 2.2  
TOWER FAN HP: 0.5

COMMENTS:

## SCHEDULE

DAYS SCHEDULE NO: 55

MONTHS SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐

TEMP LITE HI: ☐

OTHER INDICATORS:

PRESS LITE LOW: ☐

TEMP LITE LOW: ☐

PRESS GAUGES: ☐

TEMP GAUGES: ☐

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 7920

BLDG NAME: VEH MNT SHOP DS

REF. UNIT NUMBER/TAG: ACCU-6

LOCATION (MER#): ROOF

AHU'S SERVED: AHU-6

UNIT TYPE AIR COOLED CONDENSING UNIT, DX

### NAMEPLATE

CHILLER MFG: TRANE  
CHILLER MODEL: OAU-252-B  
CHILLER SERIAL NO:  
CHILLER V: 0  
CHILLER AMPS: 0  
CHILLER PH: 0  
CHILLER CAP (TONS): 4

TOWER MFG:  
# OF TOWER FANS: 1  
TOWER FAN V: 230  
TOWER FAN AMPS: 2.2  
TOWER FAN HP: 0.5

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 55

MONTHS SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐

TEMP LITE HI: ☐

OTHER INDICATORS:

PRESS LITE LOW: ☐

TEMP LITE LOW: ☐

PRESS GAUGES: ☐

TEMP GAUGES: ☐

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

### REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS

BLDG NUMBER: 7920 BLDG NAME: VEH MNT SHOP DS

REF. UNIT NUMBER/TAG: ACCU-5

LOCATION (MER#): ROOF

AHU'S SERVED: AHU-5

UNIT TYPE AIR COOLED CONDENSING UNIT, DX

### NAMEPLATE

CHILLER MFG:	TRANE	TOWER MFG:	
CHILLER MODEL:	OAUA-252-B	# OF TOWER FANS:	1
CHILLER SERIAL NO:		TOWER FAN V:	230
CHILLER V:	0	TOWER FAN AMPS:	2.2
CHILLER AMPS:	0	TOWER FAN HP:	0.5
CHILLER PH:	0		
CHILLER CAP (TONS):	4		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 55

MONTHS SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐

TEMP LITE HI: ☐

OTHER INDICATIONS:

PRESS LITE LOW: ☐

TEMP LITE LOW: ☐

PRESS GAUGES: ☐

TEMP GAUGES: ☐

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

## REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 7920 BLDG NAME: VEH MNT SHOP DS  
REF. UNIT NUMBER/TAG: ACCU-2 LOCATION (MER#): ROOF  
AHU'S SERVED: AHU-2  
UNIT TYPE AIR COOLED CONDENSING UNIT, DX

## NAMEPLATE

CHILLER MFG:	TRANE	TOWER MFG:	
CHILLER MODEL:	OAUA-252-B	# OF TOWER FANS:	1
CHILLER SERIAL NO:		TOWER FAN V:	230
CHILLER V:	0	TOWER FAN AMPS:	2.2
CHILLER AMPS:	0	TOWER FAN HP:	0.5
CHILLER PH:	0		
CHILLER CAP (TONS):	4		
COMMENTS:			

## SCHEDULE

DAYS SCHEDULE NO: 55 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT:	0	CNWS SETPOINT:	0
CWR SETPOINT:	0	CNWR SETPOINT:	0

PRESS LITE HI:	<input type="checkbox"/>	TEMP LITE HI:	<input type="checkbox"/>	OTHER INDICATORS:
PRESS LITE LOW:	<input type="checkbox"/>	TEMP LITE LOW:	<input type="checkbox"/>	
PRESS GAUGES:	<input type="checkbox"/>	TEMP GAUGES:	<input type="checkbox"/>	

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 7920 BLDG NAME: VEH MNT SHOP DS  
REF. UNIT NUMBER/TAG: ACCU-1 LOCATION (MER#): ROOF  
AHU'S SERVED: AHU-1  
UNIT TYPE AIR COOLED CONDENSING UNIT, DX

### NAMEPLATE

CHILLER MFG:	TRANE	TOWER MFG:	
CHILLER MODEL:	OAU-252-B	# OF TOWER FANS:	2
CHILLER SERIAL NO:		TOWER FAN V:	230
CHILLER V:	0	TOWER FAN AMPS:	2.2
CHILLER AMPS:	0	TOWER FAN HP:	0.5
CHILLER PH:	0		
CHILLER CAP (TONS):	4		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 55 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT:	0	CNWS SETPOINT:	0
CWR SETPOINT:	0	CNWR SETPOINT:	0

PRESS LITE HI:	<input type="checkbox"/>	TEMP LITE HI:	<input type="checkbox"/>	OTHER INDICATORS:
PRESS LITE LOW:	<input type="checkbox"/>	TEMP LITE LOW:	<input type="checkbox"/>	
PRESS GAUGES:	<input type="checkbox"/>	TEMP GAUGES:	<input type="checkbox"/>	

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 7920 BLDG NAME: VEH MNT SHOP DS  
REF. UNIT NUMBER/TAG: ACCU-3 LOCATION (MER#): ROOF  
AHU'S SERVED: AHU-3  
UNIT TYPE AIR COOLED CONDENSING UNIT, DX

**NAMEPLATE**

CHILLER MFG:	CARRIER	TOWER MFG:	
CHILLER MODEL:	38FGA30500	# OF TOWER FANS:	1
CHILLER SERIAL NO:		TOWER FAN V:	0
CHILLER V:	0	TOWER FAN AMPS:	0
CHILLER AMPS:	0	TOWER FAN HP:	0.25
CHILLER PH:	0		
CHILLER CAP (TONS):	3		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 55 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT:	0	CNWS SETPOINT:	0
CWR SETPOINT:	0	CNWR SETPOINT:	0

PRESS LITE HI:	<input type="checkbox"/>	TEMP LITE HI:	<input type="checkbox"/>	OTHER INDICATORS:
PRESS LITE LOW:	<input type="checkbox"/>	TEMP LITE LOW:	<input type="checkbox"/>	
PRESS GAUGES:	<input type="checkbox"/>	TEMP GAUGES:	<input type="checkbox"/>	

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: JM/AJN/AMS

## REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS

BLDG NUMBER: 7920 BLDG NAME: VEH MNT SHOP DS  
REF. UNIT NUMBER/TAG: ACCU-4 LOCATION (MER#): ROOF  
AHU'S SERVED: AHU-4  
UNIT TYPE AIR COOLED CONDENSING UNIT, DX

## NAMEPLATE

CHILLER MFG:	HEAT WAVE	TOWER MFG:	
CHILLER MODEL:	CTD 904	# OF TOWER FANS:	1
CHILLER SERIAL NO:		TOWER FAN V:	0
CHILLER V:	0	TOWER FAN AMPS:	0
CHILLER AMPS:	0	TOWER FAN HP:	0.5
CHILLER PH:	0		
CHILLER CAP (TONS):	4		
COMMENTS:			

## SCHEDULE

DAYS SCHEDULE NO: 55 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	9	7	9	7	9	0
REQ STOP:	0	17	17	17	15	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI: ☐ TEMP LITE HI: ☐ OTHER INDICATIONS:  
PRESS LITE LOW: ☐ TEMP LITE LOW: ☐  
PRESS GAUGES: ☐ TEMP GAUGES: ☐

CONTROLS COMMENTS:



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7920

FILE: 7920.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.: DOOR HEATERS 1-8		LOCATION (Rm)		CENTER AREA			
AHU TYPE: SZ		MFG.:		MODEL:			
SZ - Single Zone		H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)			
MZ - Multizone		VAV - Variable Air Vol.		RHT - Reheat System			
DD - Dual Duct		UH - Unit Heater		IND - Induction System			
O.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
R.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:		BURNS OPEN FLAME IN A RING WITH A BLOWER. NATURAL GAS,					DPR-ACT = Damper Actuator
		ONLY RUN WHEN THE DOORS ARE OPEN (NO EXHAUST). 2 UNITS					RP-ACT = Replace Actuator
		NOT OPERATING.					
FILTER SECTION	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:		RP-ACT = Replace Actuator					
		RP-BD = Replace Body					
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7920

FILE: 7920.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	UH-1	LOCATION (Rm)	WEST WING, MEZZANINE					
AHU TYPE: UNIT HEATER	MFG.:		MODEL:					
SZ - Single Zone	H&V - Heating & Vntlting.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:		GAS FIRED W/EXHAUST					DPR-ACT = Damper Actuator	
							RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK:	REPLACE:	SIZE:				
COMMENTS:		UNIT NOT ACCESSIBLE						
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A		
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:							RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
 CLIENT CONTRACT NO.: DACA 01-94-D-0033  
 LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7920

FILE: 7920.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	UH-2	LOCATION (Rm)	CORE AREA (WAREHOUSE)				
AHU TYPE:	SZ	MFG.:	MODEL:				
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
R.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS: GAS FIRED UNIT HEATERS WITH FLUE.							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK:	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:				
COMMENTS:							
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7920

FILE: 7920.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:		ROOM HEATER-1 LOCATION (Rm)		WEST WING, MEZZANINE, SOUTH			
AHU TYPE: ROOM HEATER		MFG.:		MODEL:			
SZ - Single Zone		H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)			
MZ - Multizone		VAV - Variable Air Vol.		RHT - Reheat System			
DD - Dual Duct		UH - Unit Heater		IND - Induction System			
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A	
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:		N/A	
COMMENTS:							
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:							
GAS-FIRED							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7920

FILE: 7920.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	CORE AREA, MEZZANINE (EAST)					
AHU TYPE:	SZ	MFG.:	CARRIER	MODEL:	58CH080 202			
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	HAS A GAS-FIRED FURNACE SECTION AND A CARRIER DX COIL						DPR-ACT = Damper Actuator	
							RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK:	REPLACE:	SIZE:	UNIT UNACCESSIBLE			
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:							RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:	DETERIORATING			
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7920

FILE: 7920.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	WEST WING, (E) MEZZANINE					
AHU TYPE:	SZ	MFG.:	CARRIER	MODEL:	58CH080 202			
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
E.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: N/A	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	O.A. & R.A. DAMPER INTERLINKED. ELECTRIC DAMPER ACTUATOR.						DPR-ACT = Damper Actuator	
							RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:	FILTERS DIRTY							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS: ~1/2 HP				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:	GAS FIRED FURNACE							
COOLING COIL	N/A:	OK: X	REPLACE: DX	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:	COMPRESSORS & CONDENSOR ON ROOF						RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:	DETERIORATING			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7920

FILE: 7620.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	MAU-1	LOCATION (Rm)	IN CENTER AREA ON MEZZANINE, EAST				
AHU TYPE:	MAU	MFG.:	SPACE AIR (GAS-FIRED RAD)	MODEL:	218-HH		
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:		ELECTRIC ACTUATOR ON OA				DPR-ACT = Damper Actuator	
						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A	
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:		N/A	
COMMENTS:		7-1/2 HP MARATHON, CFM 14,500					
		INPUT 1,104,000 BTUH					
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:		GAS-FIRED				RP-ACT = Replace Actuator	
						RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7920

FILE: 7620.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	MAU-2	LOCATION (Rm)	WEST WING, MEZZANINE, SOUTH					
AHU TYPE:	MAU	MFG.:	SPACE AIR	MODEL:	221-HH			
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	CFM = 20,900M BTU INPUT = 1,590,000						DPR-ACT = Damper Actuator	
	10 HP RELIANCE, ELECTRIC ACTUATORS, ELECTRIC CONTROL,						RP-ACT = Replace Actuator	
	GAS-FIRED - DIRECT FIRE, NO EXHAUST							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A		
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:		N/A		
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:							RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

BLDG: 7920

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

FILE: 7920.XLS

**REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS**

CHILLER / EQUIP. NO.	CH-2	LOCATION (RM)	ON ROOF (SERVES AHU-2)	
REFG. EQUIP. TYPE:		MFG.: CARRIER	MODEL: 38GF-103410	
C-WCT = Centrifugal w/ Water Side Cooling Tower		R-ACCU = Reciprocating w/ Air Cooled Condensing Unit		
R-WCT = Reciprocating w/ Water Side Cooling Tower		ASB-WCT = Absorption w/ Water Side Cooling Tower		
ACCU = Air Cooled Condensing Unit		CT = Cooling Tower		
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:
COMP. MOTOR	N/A:	OK:	REPLACE:	SIZE:
COMP. MOTOR	N/A:	OK:	REPLACE:	SIZE:
COMP. MOTOR	N/A:	OK:	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A:	OK: X	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A:	OK:	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
COOLING TOWER	N/A:	OK:	REPLACE:	SIZE:
AIR COOLED COND	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CHILLER INSUL.	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:
CHW PIPE INSUL.	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
SOUTH BAY - CARRIER 38TG030500, 208V @ 9.5 AMP COMPRESSOR				

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 10 Nov-94  
PREPARED BY: AJN  
CHECKED BY: AJN  
FILE: 7920.XLS

FILE: 7920.XLS

[illegible]

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: JM/AJN/AMS

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 8390 BLDG NAME: TAC EQUIP SHOP  
ELECTRIC METER: ☒ Y CONDITIONED SQFT: 24,755  
GAS METER: ☒ Y  
SUSPECT ACM: ☐ N

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 51

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRES STOP:	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>	<u>24</u>
REQ START:	<u>0</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>7</u>	<u>0</u>
REQ STOP:	<u>0</u>	<u>18</u>	<u>18</u>	<u>18</u>	<u>18</u>	<u>18</u>	<u>0</u>

### REMARKS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/13/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8390

AHU NUMBER: AHU-1

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: 1ST 2ND FLOOR OFFICES

% OF BLDG AREA HEATED: 12

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,475

CFM-CLG: 3,475

MIN %OA: 10

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE

UNIT MODEL:

SUPPLY FAN HP: 3

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 51

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	18	18	18	18	18	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLs? ☐MAX OA DMPR CONTROL: ☒ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/13/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8390

AHU NUMBER: HV-1

AHU LOCATION: 102

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: 1ST FLR OFFICES

% OF BLDG AREA HEATED: 12

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,345

MIN %OA: 33

CFM-CLG: 0

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 1.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 51

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	18	18	18	18	18	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: Y

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8390  
AHU NUMBER: MAU-1  
AHU LOCATION: MAINT. BAY  
REFRIG SYS # SRVNG AHU: NONE  
SERVES AREA: MAINT. BAY  
% OF BLDG AREA HEATED: 10

AHU UNIT TYPE MAKE-UP AIR UNIT  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 4,700  
MIN %OA: 100  
CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: \_\_\_\_\_ UNIT MODEL: \_\_\_\_\_  
SUPPLY FAN HP: 1.5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: \_\_\_\_\_ RET/EXH FAN MTR MFG: \_\_\_\_\_  
SUPPLY FAN MTR MODEL: \_\_\_\_\_ RET/EXH FAN MTR MODEL: \_\_\_\_\_  
COMMENTS: \_\_\_\_\_

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 51  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	18	18	18	18	18	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☐ ☐ ☐ ☐ ☐ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP: \_\_\_\_\_  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/13/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8390

AHU NUMBER: MAU-2

AHU LOCATION: MAINT. BAY

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: MAINT. BAY

% OF BLDG AREA HEATED: 10

AHU UNIT TYPE MAKE-UP AIR UNIT

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 4,700

MIN %OA: 100

CFM-CLG: 0

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 1.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 51

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	18	18	18	18	18	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/13/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8390

AHU NUMBER: UH-1

AHU LOCATION: MAINT. BAY NORTH

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: MAINT. BAY NORTH

% OF BLDG AREA HEATED: 23

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 11,200

CFM-CLG: 0

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 1

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 51

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	18	18	18	18	18	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/13/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8390

AHU NUMBER: UH-2

AHU LOCATION: MAINT. BAY SOUTH

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: MAINT BAY SOUTH

% OF BLDG AREA HEATED: 23

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 11,200

CFM-CLG: 0

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 1

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 51

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	18	18	18	18	18	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRL? N

MAX OA DMPR CONTROL: N

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: JM/AJN/AMS

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 8390

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT ☐ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒ **BOILER**  
BOILER TAG: BLR-1  
BOILER TYPE: HW (UP TO 250 DEG)  
FUEL TYPE: NAT. GAS

☐ **CONVERTER**  
CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_

☐ CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 10

BOILER MFG: AJAX  
UNIT MODEL: WGFD3250

BLR CAP OUTPUT (BTUH): 2,600,000  
BLR CAP INPUT (BTUH): 3,250,000

COMMENTS: \_\_\_\_\_

### SCHEDULE

DAYS SCHEDULE NO: 51 MONTH SECHDULE NO: 1  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	18	18	18	18	18	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:

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### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC  
OPERATING SETPOINT: 190 DEG F or PSIG  
TYPE OF BURNER CONTROLS: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_

RESET CONTROLS: ☒

### HW PUMP

PUMP TAG: 1 PUMP HP: 15  
PUMP SERVICE: HW PUMP

PUMP MFG: U S ELECTRIC  
PUMP MODEL: GB06200151L021R060

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: JM/AJN/AMS

## PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 8390	BLDG NAME: TAC EQUIP SHOP
PER RAD (SYSTEM TAG) NO: RAD-1	RAD SYS LOCATION: PERIMETER OFFICES
SOURCE OF HEATING:	SERVES AREA: 1ST 2ND FLOORS
RADIATION UNIT TYPE: HW	% AREA HTG: 10

## SCHEDULE

DAYS SCHEDULE NO: 51	MONTHS SCHEDULE NO: 1																																								
SCHEDULE COMMENTS:																																									
<table><thead><tr><th></th><th>SUN:</th><th>MON:</th><th>TUE:</th><th>WED:</th><th>THUR:</th><th>FRI:</th><th>SAT:</th></tr></thead><tbody><tr><td>PRES START:</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>PRES STOP:</td><td>24</td><td>24</td><td>24</td><td>24</td><td>24</td><td>24</td><td>24</td></tr><tr><td>REQ START:</td><td>0</td><td>7</td><td>7</td><td>7</td><td>7</td><td>7</td><td>0</td></tr><tr><td>REQ STOP:</td><td>0</td><td>18</td><td>18</td><td>18</td><td>18</td><td>18</td><td>0</td></tr></tbody></table>			SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:	PRES START:	0	0	0	0	0	0	0	PRES STOP:	24	24	24	24	24	24	24	REQ START:	0	7	7	7	7	7	0	REQ STOP:	0	18	18	18	18	18	0
	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:																																		
PRES START:	0	0	0	0	0	0	0																																		
PRES STOP:	24	24	24	24	24	24	24																																		
REQ START:	0	7	7	7	7	7	0																																		
REQ STOP:	0	18	18	18	18	18	0																																		
<table><thead><tr><th>MONTHS</th><th>JAN:</th><th>FEB:</th><th>MAR:</th><th>APR:</th><th>MAY:</th><th>JUN:</th><th>JUL:</th><th>AUG:</th><th>SEP:</th><th>OCT:</th><th>NOV:</th><th>DEC:</th></tr></thead><tbody><tr><td>ON:</td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr></tbody></table>		MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:	ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														
MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:																													
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																													

## CONTROLS

TYPE OF RAD. CONTROLS:	ELECTRIC
RADIATION CONTROL:	
OCC HT SPACE SP:	0
UNOCC HT SPACE SP:	0
RESET CONTROL:	N
CONTROL COMMENTS:	

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/13/94  
PREPARED BY: JM/AJN/AMS

## REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS

BLDG NUMBER: 8390 BLDG NAME: TAC EQUIP SHOP  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: AHU-1  
UNIT TYPE AIR COOLED CONDENSING UNIT, DX

## NAMEPLATE

CHILLER MFG:	TRANE	TOWER MFG:	COMPRESSOR
CHILLER MODEL:	RAUCB754B	# OF TOWER FANS:	2
CHILLER SERIAL NO:		TOWER FAN V:	0
CHILLER V:	480	TOWER FAN AMPS:	2.7
CHILLER AMPS:	12.3	TOWER FAN HP:	0.33
CHILLER PH:	0		
CHILLER CAP (TONS):	8		
COMMENTS:			

## SCHEDULE

DAYS SCHEDULE NO: 51 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	18	18	18	18	18	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT:	0	CNWS SETPOINT:	0
CWR SETPOINT:	0	CNWR SETPOINT:	0

PRESS LITE HI:	<input type="checkbox"/>	TEMP LITE HI:	<input type="checkbox"/>	OTHER INDICATORS:
PRESS LITE LOW:	<input type="checkbox"/>	TEMP LITE LOW:	<input type="checkbox"/>	
PRESS GAUGES:	<input type="checkbox"/>	TEMP GAUGES:	<input type="checkbox"/>	

CONTROLS COMMENTS:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

7 Nov-94

PREPARED BY:

AJN

CHECKED BY:

AJN

BLDG:

8390

FILE:

8390.XLS

**PERIMETER RADIATION - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	PR-1	LOCATION (Rm)	STORAGE ROOM, WEST SIDE					
AHU TYPE:	PR	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System			PERIMETER RADIATION		
O.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	ZONE CONTROL VALVE (2-WAY PNEUMATIC, 1/2") NEEDS TO BE						DPR-ACT = Damper Actuator	
	REPLACED. PHOTO #5. TYPICAL OF OTHERS						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK:	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK:	REPLACE:		COMMENTS:				
INLET VANES	N/A:	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
HEATING COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:							RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

7 Nov-94

PREPARED BY:

AJN

CHECKED BY:

AJN

BLDG:

8390

FILE:

8390.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	H&V-1	LOCATION (Rm)	STORAGE ROOM - WEST SIDE					
AHU TYPE:	H&V	MFG.:	TRANE	MODEL:	TORIVENT, TYPE 2			
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	MINIMUM POSITIONER ON ACTUATOR.. OA DAMPER AND RA DAMPER						DPR-ACT = Damper Actuator	
	INTERLOCKED						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK:	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS: 2 HP				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:							RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 8390

FILE: 8390.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	MAU-1&2	LOCATION (Rm)	CEILING
AHU TYPE:	MAU	MFG.:	TRANE
		MODEL:	CLIMATE CHANGER, SIZE 8, TYPE CF-B
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)	
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System	
DD - Dual Duct	UH - Unit Heater	IND - Induction System	
O.A. DAMPER	N/A:	OK: X	REPLACE:
R.A. DAMPER	N/A:	OK: X	REPLACE:
E.A. DAMPER	N/A: X	OK:	REPLACE:
F. & B. DAMPER	N/A: X	OK:	REPLACE:
ZONE DAMPER	N/A: X	OK:	REPLACE:
COMMENTS:	PNEUMATIC		
	DPR-ACT = Damper Actuator		
	RP-ACT = Replace Actuator		
FILTER SECTION	N/A:	OK: X	REPLACE:
COMMENTS:			
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS: 2 HP MARATHON
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:
INLET VANES	N/A: X	OK:	COMMENTS:
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A
COMMENTS:			
COOLING COIL	N/A: X	OK:	REPLACE:
HEATING COIL	N/A:	OK: X	REPLACE:
PREHEAT COIL	N/A: X	OK:	REPLACE:
REHEAT COIL	N/A: X	OK:	REPLACE:
COMMENTS:	3-WAY PNEUMATIC CONTROL VALVE @ 1" PIPE SIZE		
	RP-ACT = Replace Actuator		
	RP-BD = Replace Body		
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:
AHU PUMP SEALS	N/A: X	OK:	REPLACE:
COMMENTS:			
PIPE INSULATION	N/A:	OK: X	MISSING:
DUCT INSULATION	N/A:	OK: X	MISSING:
COMMENTS:			

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 8390

FILE: 8390.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER					
AHU TYPE:	SZ	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	*
R.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	*
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	*ACTUATOR IS MISSING. RETURN AIR IS SEALED OF WITH SHEET METAL; OA DAMPERS ARE WIRED OPEN. UH'S ARE IN GOOD CONDITION.						DPR-ACT = Damper Actuator RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS: N/A				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:	DX COIL FOR COOLING						RP-ACT = Replace Actuator RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								



**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

FILE: 8390.XLS

BLDG: 8390

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 8390

FILE: 8390.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	HW	MFG.:	MODEL:
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X REPLACE:
COMMENTS:			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
COMMENTS:			
HW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS: (NEW BEARINGS & SEALS 10-18-94)			
CV PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/19/94

PREPARED BY: JM.AJN/AMS

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 0202

BLDG NAME: PHYS FITNESS CTR

ELECTRIC METER: N

CONDITIONED SQFT: 51,307

GAS METER: N

SUSPECT ACM: N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 52

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	6	6	6	6	6	9
REQ STOP:	21	22	22	22	22	22	21

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/19/94

PREPARED BY: JM.AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0202  
AHU NUMBER: AHU-1  
AHU LOCATION: WEIGHT ROOM  
REFRIG SYS # SRVNG AHU: CT-1  
SERVES AREA: WEIGHT ROOM  
% OF BLDG AREA HEATED: 14

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 4,500

CFM-CLG: 0

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 2  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 52  
MONTH SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	6	6	6	6	6	9
REQ STOP:	21	22	22	22	22	22	21

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0  
COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0  
MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
MAX OA DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
RET AIR DMPR CONTROL: N  
ECONOMIZER WB CONTROL: N  
EXH AIR DMPR CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLS? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/19/94  
PREPARED BY: JM.AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER:	0202	AHU LOCATION:	SKATE RINK
AHU NUMBER:	AHU-2		
REFRIG SYS # SRVNG AHU:	CH-1	SERVES AREA:	SKATE RINK
		% OF BLDG AREA HEATED:	0

AHU UNIT TYPE	SINGLE ZONE	NUMBER OF ZONES IF MZ UNIT:	0
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CFM-HTG:	18,500	CFM-CLG:	18,500
MIN %OA:	10	MAX %OA:	100

**NAMEPLATE**

UNIT MFG:	CARRIER	UNIT MODEL:	28CX1428
SUPPLY FAN HP:	5	RET/EXH FAN HP:	0
SUPPLY FAN MTR MFG:		RET/EXH FAN MTR MFG:	
SUPPLY FAN MTR MODEL:		RET/EXH FAN MTR MODEL:	
COMMENTS:			

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO:	52	MONTH SCHEDULE NO:	3
SCHEDULE COMMENTS:			

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	6	6	6	6	6	9
REQ STOP:	21	22	22	22	22	22	21

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS:	ELECTRIC	THERMOSTAT TYPE:	SINGLE SETPOINT
PRESENT TEMP WINTR OCC:	70	HOT DECK DEG F:	0
PRESENT TEMP WINTR UNOCC:	0	COLD DECK DEG F:	0
PRESENT TEMP SUM OCC:	0	MIXED AIR DEG F:	0
PRESENT TEMP SUM UNOCC:	0	OTHER SETPOINT DESCRIP:	
		OTHER SETPOINT DEG F:	0

MIN OA DMPR CONTROL:	<input type="checkbox"/>	MIXED AIR DMPR CONTROL:	<input type="checkbox"/>	IMPLEMENT DEMAND LIMIT CNTRLS?	<input type="checkbox"/>
MAX OA DMPR CONTROL:	<input type="checkbox"/>	ECONOMIZER DB CONTROL:	<input type="checkbox"/>	TIME CLOCK:	<input type="checkbox"/>
RET AIR DMPR CONTROL:	<input type="checkbox"/>	ECONOMIZER WB CONTROL:	<input type="checkbox"/>	TIME CLOCK OPERATIONAL?	<input type="checkbox"/>
EXH AIR DMPR CONTROL:	<input type="checkbox"/>				

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/19/94  
PREPARED BY: JM.AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0202  
AHU NUMBER: UH-1 AHU LOCATION: GYMNASIUM  
REFRIG SYS # SRVNG AHU: NONE SERVES AREA: GYM  
% OF BLDG AREA HEATED: 16

AHU UNIT TYPE UNIT HEATER NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 8,000 CFM-CLG: 0  
MIN %OA: 0 MAX %OA: 0

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 1.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 52 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	6	6	6	6	6	9
REQ STOP:	21	22	22	22	22	22	21

MONTHS ON: JAN: ☒ FEB: ☒ MAR: ☒ APR: ☒ MAY: ☐ JUN: ☐ JUL: ☐ AUG: ☐ SEP: ☐ OCT: ☒ NOV: ☒ DEC: ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLs? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/19/94  
PREPARED BY: JM.AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER:	0202	AHU LOCATION:	GYMNASIUM
AHU NUMBER:	UH-2		
REFRIG SYS # SRVNG AHU:	NONE	SERVES AREA:	GYM
		% OF BLDG AREA HEATED:	16
AHU UNIT TYPE	UNIT HEATER	NUMBER OF ZONES IF MZ UNIT:	0
CFM-HTG:	8,000	CFM-CLG:	0
MIN %OA:	0	MAX %OA:	0

**NAMEPLATE**

UNIT MFG:		UNIT MODEL:	
SUPPLY FAN HP:	1.5	RET/EXH FAN HP:	0
SUPPLY FAN MTR MFG:		RET/EXH FAN MTR MFG:	
SUPPLY FAN MTR MODEL:		RET/EXH FAN MTR MODEL:	
COMMENTS:			

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO:	52	MONTH SCHEDULE NO:	1									
SCHEDULE COMMENTS:												
	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:					
PRES START:	0	0	0	0	0	0	0					
PRES STOP:	24	24	24	24	24	24	24					
REQ START:	9	6	6	6	6	6	9					
REQ STOP:	21	22	22	22	22	22	21					
MONTHS ON:	JAN: <input checked="" type="checkbox"/>	FEB: <input checked="" type="checkbox"/>	MAR: <input checked="" type="checkbox"/>	APR: <input checked="" type="checkbox"/>	MAY: <input type="checkbox"/>	JUN: <input type="checkbox"/>	JUL: <input type="checkbox"/>	AUG: <input type="checkbox"/>	SEP: <input type="checkbox"/>	OCT: <input checked="" type="checkbox"/>	NOV: <input checked="" type="checkbox"/>	DEC: <input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS:	ELECTRIC	THERMOSTAT TYPE:	SINGLE SETPOINT		
PRESENT TEMP WINTR OCC:	0	HOT DECK DEG F:	0		
PRESENT TEMP WINTR UNOCC:	0	COLD DECK DEG F:	0		
PRESENT TEMP SUM OCC:	0	MIXED AIR DEG F:	0		
PRESENT TEMP SUM UNOCC:	0	OTHER SETPOINT DESCRIP:			
		OTHER SETPOINT DEG F:	0		
MIN OA DMPR CONTROL:	<input checked="" type="checkbox"/>	MIXED AIR DMPR CONTROL:	<input checked="" type="checkbox"/>	IMPLEMENT DEMAND LIMIT CNTRLs?	<input checked="" type="checkbox"/>
MAX OA DMPR CONTROL:	<input checked="" type="checkbox"/>	ECONOMIZER DB CONTROL:	<input checked="" type="checkbox"/>	TIME CLOCK:	<input checked="" type="checkbox"/>
RET AIR DMPR CONTROL:	<input checked="" type="checkbox"/>	ECONOMIZER WB CONTROL:	<input checked="" type="checkbox"/>	TIME CLOCK OPERATIONAL?	<input checked="" type="checkbox"/>
EXH AIR DMPR CONTROL:	<input checked="" type="checkbox"/>				
OTHER CONTROLS DESCR:					
CONTROLS COMMENTS:					

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/19/94  
PREPARED BY: JM.AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0202  
AHU NUMBER: UH-3  
AHU LOCATION:  
REFRIG SYS # SRVNG AHU: NONE  
SERVES AREA: 2ND FLR. OFFICES  
% OF BLDG AREA HEATED: 15

AHU UNIT TYPE UNIT HEATER  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 5,750  
MIN %OA: 0  
CFM-CLG: 0  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG:  
SUPPLY FAN HP: 2  
SUPPLY FAN MTR MFG:  
SUPPLY FAN MTR MODEL:  
COMMENTS:  
UNIT MODEL:  
RET/EXH FAN HP: 0  
RET/EXH FAN MTR MFG:  
RET/EXH FAN MTR MODEL:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 52  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	6	6	6	6	6	9
REQ STOP:	21	22	22	22	22	22	21

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:

☒ ☒ ☒ ☒ ☐ ☐ ☐ ☐ ☐ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: N  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/19/94  
PREPARED BY: JM.AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0202

AHU NUMBER: UH-4

AHU LOCATION: LOCKER ROM

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: LOCKER RM/ RAQUETBALL CO

% OF BLDG AREA HEATED: 21

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 8,000

CFM-CLG: 8,000

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 1.5

RET/EXH FAN HP:

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 52

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	6	6	6	6	6	9
REQ STOP:	21	22	22	22	22	22	21

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLS? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/19/94

PREPARED BY: JM.AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0202  
AHU NUMBER: UH-5  
AHU LOCATION: STORAGE  
REFRIG SYS # SRVNG AHU:   
SERVES AREA: WOMEN'S LOCKERS  
% OF BLDG AREA HEATED: 16

AHU UNIT TYPE UNIT HEATER  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 8,000  
MIN %OA: 0

CFM-CLG: 0  
MAX %OA: 0

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL:   
SUPPLY FAN HP: 1.5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:   
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL:   
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 52  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	6	6	6	6	6	9
REQ STOP:	21	22	22	22	22	22	21

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0  
COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0  
MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
MAX OA DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
TIME CLOCK: N  
RET AIR DMPR CONTROL: N  
ECONOMIZER WB CONTROL: N  
TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/19/94  
PREPARED BY: JM.AJN/AMS

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0202

BOILER RM LOCATION: MER

### BOILER UNIT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL

SOURCE OF BLDG HEAT

<input checked="" type="radio"/> <b>BOILER</b> BOILER TAG: BLR-1 BOILER TYPE: LOW PRESS STEAM (<15#) FUEL TYPE: NAT. GAS	<input type="radio"/> <b>CONVERTER</b> CONVERTER TAG: CONVERTER TYPE: CONV HT SOURCE:
<input type="radio"/> <b>CENTRAL PLANT DIRECT</b>	

### NAMEPLATE

% AREA HEATED BY BB RADIATION:

BOILER MFG: KEWANEE

BLR CAP OUTPUT (BTUH): 4,250,000

UNIT MODEL: M425-KG

BLR CAP INPUT (BTUH): 5,313,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 52

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	6	6	6	6	6	9
REQ STOP:	21	22	22	22	22	22	21

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: 10 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/19/94  
PREPARED BY: JM.AJN/AMS

**REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS**

BLDG NUMBER: 0202 BLDG NAME: PHYS FITNESS CTR

REF. UNIT NUMBER/TAG: CH-1

LOCATION (MER#): OUTSIDE

AHU'S SERVED: AHU-2

UNIT TYPE AIR COOLED CONDENSING UNIT, DX

**NAMEPLATE**

CHILLER MFG: CARRIER  
CHILLER MODEL: 38AE044S10AA  
CHILLER SERIAL NO:  
CHILLER V: 208  
CHILLER AMPS: 76  
CHILLER PH: 3  
CHILLER CAP (TONS): 45

TOWER MFG:  
# OF TOWER FANS: 4  
TOWER FAN V: 208  
TOWER FAN AMPS: 4.6  
TOWER FAN HP: 0.43

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 52

MONTHS SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	6	6	6	6	6	9
REQ STOP:	21	22	22	22	22	22	21

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐

TEMP LITE HI: ☐

OTHER INDICATORS:

PRESS LITE LOW: ☐

TEMP LITE LOW: ☐

PRESS GAUGES: ☐

TEMP GAUGES: ☐

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/19/94  
PREPARED BY: JM.AJN/AMS

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 0202 BLDG NAME: PHYS FITNESS CTR  
REF. UNIT NUMBER/TAG: CT-1 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: AHU-1  
UNIT TYPE: WATER COOLING TOWER

**NAMEPLATE**

CHILLER MFG:		TOWER MFG:	MARLEY
CHILLER MODEL:		# OF TOWER FANS:	1
CHILLER SERIAL NO:		TOWER FAN V:	0
CHILLER V:	0	TOWER FAN AMPS:	0
CHILLER AMPS:	0	TOWER FAN HP:	1
CHILLER PH:	0		
CHILLER CAP (TONS):	10		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 52 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	6	6	6	6	6	9
REQ STOP:	21	22	22	22	22	22	21

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☐ ☐ ☐ ☐ ☒ ☒ ☒ ☒ ☒ ☐ ☐ ☐

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI: ☐ TEMP LITE HI: ☐ OTHER INDICATIONS:  
PRESS LITE LOW: ☐ TEMP LITE LOW: ☐  
PRESS GAUGES: ☐ TEMP GAUGES: ☐

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 0.75 PUMP MFG:  
PUMP SERVICE: COND WATER PUMP (CNW) PUMP MODEL:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 202

FILE: 202.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	FC-1,2	LOCATION (Rm)	GYM					
AHU TYPE:	FC	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	TWO FC'S IN GYM & ONE IN ATTIC ABOVE RAQUET BALL COURTS.							DPR-ACT = Damper Actuator
	220V/8.42 AMPS							RP-ACT = Replace Actuator
FILTER SECTION	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:	DUCT, 58" X 16"							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:	UNITS VERY OLD.							
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	NONE	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:	CONDITION = VERY POOR							RP-ACT = Replace Actuator
								RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG:

202

FILE: 202.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-3	LOCATION (Rm)	WEIGHT ROOM				
AHU TYPE:	SZ	MFG.:	COMFORT AIRE	MODEL:			
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)				
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System				
DD - Dual Duct	UH - Unit Heater		IND - Induction System				
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL-DX	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS: OLD UNIT. NO INSULATION ON ~20' @ 3" FOR HEATING							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

LOCATION: FT. RILEY, KANSAS

CHECKED BY: AJN

202

FILE: 202.XLS

[illegible]



PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 13 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN  
FILE: 202.XLS

FILE: 202.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 202

FILE: 202.XLS

BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS				
BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER	
BOILER TYPE:	STM	MFG.:	KEWANEE	MODEL: M-425-KG
CONVERTER TYPE:		MFG.:		MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER:	X	OK: REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY: 12' @ 8" + 24' @ 4"
COMMENTS:				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: AJN/CWW/AMS

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 7485

BLDG NAME: BOWLING ALLEY

ELECTRIC METER: Y

CONDITIONED SQFT: 36,966

GAS METER: Y

SUSPECT ACM: N

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 53

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	12	9	9	9	9	9	9
REQ STOP:	22	24	24	24	24	2	2

### REMARKS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7485  
AHU NUMBER: AHU-1 AHU LOCATION: ORIG. BLDG MER  
REFRIG SYS # SRVNG AHU: CH-2 SERVES AREA: ORIG. BLDG.  
% OF BLDG AREA HEATED: 46

AHU UNIT TYPE DUAL DUCT NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 16,000 CFM-CLG: 16,000  
MIN %OA: 20 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: WORTHINGTON CORP UNIT MODEL: CM-40.00  
SUPPLY FAN HP: 2 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 53 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	12	9	9	9	9	9	9
REQ STOP:	22	24	24	24	24	2	2

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☒ IMPLEMENT DEMAND LIMIT CNTRLs? ☐  
MAX OA DMPR CONTROL: ☒ ECONOMIZER DB CONTROL: ☒ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☒ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: AJN/CVWW/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7485

AHU NUMBER: AHU-2

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: CH-2

SERVES AREA: NEW ADDITION

% OF BLDG AREA HEATED: 46

AHU UNIT TYPE VAV

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 10,000

CFM-CLG: 10,000

MIN %OA: 10

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: CARRIER

UNIT MODEL: 34ED23

SUPPLY FAN HP: 10

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	HOT WATER	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 53

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	12	9	9	9	9	9	9
REQ STOP:	22	24	24	24	24	2	2

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 70

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 70

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 70

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 70

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLs? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/11/94

PREPARED BY: AJN/CWW/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7485

AHU NUMBER: UH-1

AHU LOCATION: STORAGE/ MAINTENANCE

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: ORIG. BLDG

% OF BLDG AREA HEATED: 4

AHU UNIT TYPE UNIT HEATER

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,200

CFM-CLG: 0

MIN %OA: 0

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 0.25

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 53

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	12	9	9	9	9	9	9
REQ STOP:	22	24	24	24	24	2	2

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLS? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7485  
AHU NUMBER: UH-2  
AHU LOCATION: STORAGE/ MAINTENANCE  
REFRIG SYS # SRVNG AHU: NONE  
SERVES AREA: NEW ADDITION  
% OF BLDG AREA HEATED: 4

AHU UNIT TYPE: UNIT HEATER  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 1,630  
MIN %OA: 0  
CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: \_\_\_\_\_ UNIT MODEL: \_\_\_\_\_  
SUPPLY FAN HP: 0.25 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: \_\_\_\_\_ RET/EXH FAN MTR MFG: \_\_\_\_\_  
SUPPLY FAN MTR MODEL: \_\_\_\_\_ RET/EXH FAN MTR MODEL: \_\_\_\_\_  
COMMENTS: \_\_\_\_\_

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 53  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	12	9	9	9	9	9	9
REQ STOP:	22	24	24	24	24	2	2

MONTHS ON: JAN: ☒ FEB: ☒ MAR: ☒ APR: ☒ MAY: ☐ JUN: ☐ JUL: ☐ AUG: ☐ SEP: ☐ OCT: ☒ NOV: ☒ DEC: ☒

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP: \_\_\_\_\_  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ N  
RET AIR DMPR CONTROL: ☐ N  
EXH AIR DMPR CONTROL: ☐ N  
MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N  
IMPLEMENT DEMAND LIMIT CNTRLS? ☐ N  
TIME CLOCK: ☐ N  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW/AMS

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7485

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: AHU-1,2

**BOILER**

BOILER TAG: BLR-1

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS

☐ **CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: AJAX

UNIT MODEL: WGFD-2000

BLR CAP OUTPUT (BTUH): 1,600,000

BLR CAP INPUT (BTUH): 2,000,000

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 53

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	12	9	9	9	9	9	9
REQ STOP:	22	24	24	24	24	2	2

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: ☒ N

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

**HW PUMP**

PUMP TAG: 1

PUMP HP: 3

PUMP MFG: MARATHON

PUMP SERVICE: HW PUMP

PUMP MODEL: UVE 182TTDR7627ACL



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW/AMS

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 7485 BLDG NAME: BOWLING ALLEY  
REF. UNIT NUMBER/TAG: CH-2 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: AHU-2  
UNIT TYPE: RECIPROCATING WITH AIR COOLED CONDENSING UNIT

### NAMEPLATE

CHILLER MFG:	CARRIER	TOWER MFG:	
CHILLER MODEL:	38AD-028-530	# OF TOWER FANS:	3
CHILLER SERIAL NO:		TOWER FAN V:	0
CHILLER V:	0	TOWER FAN AMPS:	0
CHILLER AMPS:	0	TOWER FAN HP:	0.5
CHILLER PH:	0		
CHILLER CAP (TONS):	28		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 53 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	12	9	9	9	9	9	9
REQ STOP:	22	24	24	24	24	2	2

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT:	0	CNWS SETPOINT:	0
CWR SETPOINT:	0	CNWR SETPOINT:	0

PRESS LITE HI:	<input type="checkbox"/>	TEMP LITE HI:	<input type="checkbox"/>	OTHER INDICATORS:	
PRESS LITE LOW:	<input type="checkbox"/>	TEMP LITE LOW:	<input type="checkbox"/>		
PRESS GAUGES:	<input type="checkbox"/>	TEMP GAUGES:	<input type="checkbox"/>		

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW/AMS

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 7485 BLDG NAME: BOWLING ALLEY  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: AHU-1  
UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

**NAMEPLATE**

CHILLER MFG:	TSI	TOWER MFG:	
CHILLER MODEL:	502CD60	# OF TOWER FANS:	6
CHILLER SERIAL NO:	9692	TOWER FAN V:	0
CHILLER V:	230	TOWER FAN AMPS:	4.6
CHILLER AMPS:	250	TOWER FAN HP:	1
CHILLER PH:	3		
CHILLER CAP (TONS):	60		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 53 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	12	9	9	9	9	9	9
REQ STOP:	22	24	24	24	24	2	2

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT:	0	CNWS SETPOINT:	0
CWR SETPOINT:	0	CNWR SETPOINT:	0

PRESS LITE HI:	<input type="checkbox"/>	TEMP LITE HI:	<input type="checkbox"/>	OTHER INDICATORS:
PRESS LITE LOW:	<input type="checkbox"/>	TEMP LITE LOW:	<input type="checkbox"/>	
PRESS GAUGES:	<input type="checkbox"/>	TEMP GAUGES:	<input type="checkbox"/>	

CONTROLS COMMENTS:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7485

FILE: 7485.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	NEW MER				
AHU TYPE:	VAV	MFG.:	CARRIER	MODEL:	28CU112MB4084-K		
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)				
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System				
DD - Dual Duct	UH - Unit Heater		IND - Induction System				
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS: VAV CONTROLLER IS SET TO MANUAL OPERATION							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS: N/A			
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
 CLIENT CONTRACT NO.: DACA 01-94-D-0033  
 LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7485

FILE: 7485.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	MER WEST					
AHU TYPE:	DUAL DUCT	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A:	OK: X	CLEAN	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	CLEAN	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	DAMPERS VERY DIRTY, NEED TO BE CLEANED. UNIT						DPR-ACT = Damper Actuator	
	CHANGEOVER SWITCH STILL @ SUMMER.						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:X
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:							RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:	20' @ 3"			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

LOCATION: FT. RILEY, KANSAS

FILE: 7485.XLS

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 12 Nov-94  
PREPARED BY: AJN  
CHECKED BY: AJN

FILE: 7485.XLS

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**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7485

FILE: 7485.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER EAST	
BOILER TYPE:	HW	MFG.: AJAX	MODEL: WFD-2000	
CONVERTER TYPE:	MFG.:		MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: 3 HP
BLR PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS: PUMP LOOKS OLD, BUT OK. PUMP UN-INSULATED				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				





## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/14/94  
PREPARED BY: AJN/AMS/CWW

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 6914

BLDG NAME: EXC MAIN RETL

ELECTRIC METER: Y

CONDITIONED SQFT: 63,930

GAS METER: Y

SUSPECT ACM: N

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 54

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	10	9	9	9	9	9	9
REQ STOP:	19	21	21	21	21	21	21

### REMARKS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/14/94

PREPARED BY: AJN/AMS/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 6914

AHU NUMBER: AHU-1

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: CH-1, CH-2

SERVES AREA: MAIN SALES AREA

% OF BLDG AREA HEATED: 51

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 28,100

MIN %OA: 57

CFM-CLG: 28,100

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 20

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	HOT WATER	<input checked="" type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 54

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	10	9	9	9	9	9	9
REQ STOP:	19	21	21	21	21	21	21

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 60

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: Y

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: Y

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/14/94

PREPARED BY: AJN/AMS/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 6914

AHU NUMBER: AHU-2

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: CH-1, CH-2

SERVES AREA: OFFICE AREA

% OF BLDG AREA HEATED: 6

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 3,500

MIN %OA: 17

CFM-CLG: 3,500

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: AIRTEMP

UNIT MODEL:

SUPPLY FAN HP: 2

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: BALDOR

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 54

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	10	9	9	9	9	9	9
REQ STOP:	19	21	21	21	21	21	21

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

OTHER SETPOINT DESCRIP:

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: Y

MIXED AIR DMPR CONTROL: Y

IMPLEMENT DEMAND LIMIT CNTRLS? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: Y

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/14/94  
PREPARED BY: AJN/AMS/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 6914  
AHU NUMBER: AHU-3  
AHU LOCATION: MEZZ ABOVE OFFICES  
REFRIG SYS # SRVNG AHU: NONE  
SERVES AREA: WAREHOUSE  
% OF BLDG AREA HEATED: 13

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 7,380  
MIN %OA: 25

CFM-CLG: 7,380  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: \_\_\_\_\_ UNIT MODEL: \_\_\_\_\_  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: \_\_\_\_\_ RET/EXH FAN MTR MFG: \_\_\_\_\_  
SUPPLY FAN MTR MODEL: \_\_\_\_\_ RET/EXH FAN MTR MODEL: \_\_\_\_\_  
COMMENTS: \_\_\_\_\_

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 54 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	10	9	9	9	9	9	9
REQ STOP:	19	21	21	21	21	21	21

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 60 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP: \_\_\_\_\_  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/14/94  
PREPARED BY: AJN/AMS/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER:	6914	AHU LOCATION:	MER
AHU NUMBER:	AHU-4		
REFRIG SYS # SRVNG AHU:	CH-1, CH-2	SERVES AREA:	SOUTH SHOPS
		% OF BLDG AREA HEATED:	18
AHU UNIT TYPE	MULTI ZONE	NUMBER OF ZONES IF MZ UNIT:	5
CFM-HTG:	9,620	CFM-CLG:	9,620
MIN %OA:	0	MAX %OA:	100

**NAMEPLATE**

UNIT MFG:		UNIT MODEL:	
SUPPLY FAN HP:	10	RET/EXH FAN HP:	0
SUPPLY FAN MTR MFG:		RET/EXH FAN MTR MFG:	
SUPPLY FAN MTR MODEL:		RET/EXH FAN MTR MODEL:	
COMMENTS:			

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO:	54	MONTH SCHEDULE NO:	3									
SCHEDULE COMMENTS:												
	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:					
PRES START:	0	0	0	0	0	0	0					
PRES STOP:	24	24	24	24	24	24	24					
REQ START:	10	9	9	9	9	9	9					
REQ STOP:	19	21	21	21	21	21	21					
MONTHS ON:	JAN: <input checked="" type="checkbox"/>	FEB: <input checked="" type="checkbox"/>	MAR: <input checked="" type="checkbox"/>	APR: <input checked="" type="checkbox"/>	MAY: <input checked="" type="checkbox"/>	JUN: <input checked="" type="checkbox"/>	JUL: <input checked="" type="checkbox"/>	AUG: <input checked="" type="checkbox"/>	SEP: <input checked="" type="checkbox"/>	OCT: <input checked="" type="checkbox"/>	NOV: <input checked="" type="checkbox"/>	DEC: <input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS:	PNEUMATIC	THERMOSTAT TYPE:	SINGLE SETPOINT		
PRESENT TEMP WINTR OCC:	0	HOT DECK DEG F:	0		
PRESENT TEMP WINTR UNOCC:	0	COLD DECK DEG F:	0		
PRESENT TEMP SUM OCC:	0	MIXED AIR DEG F:	0		
PRESENT TEMP SUM UNOCC:	0	OTHER SETPOINT DESCRIP:			
		OTHER SETPOINT DEG F:	0		
MIN OA DMPR CONTROL:	N	MIXED AIR DMPR CONTROL:	Y	IMPLEMENT DEMAND LIMIT CNTRLS?	N
MAX OA DMPR CONTROL:	Y	ECONOMIZER DB CONTROL:	N	TIME CLOCK:	Y
RET AIR DMPR CONTROL:	Y	ECONOMIZER WB CONTROL:	N	TIME CLOCK OPERATIONAL?	N
EXH AIR DMPR CONTROL:	N				

OTHER CONTROLS DESCR: \_\_\_\_\_  
CONTROLS COMMENTS: \_\_\_\_\_

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/14/94  
PREPARED BY: AJN/AMS/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 6914

AHU NUMBER: AHU-5

AHU LOCATION: MEZZANINE

REFRIG SYS # SRVNG AHU: CH-1, CH-2

SERVES AREA: NORTH SERVICES SHOPS

% OF BLDG AREA HEATED: 12

AHU UNIT TYPE MULTI ZONE

NUMBER OF ZONES IF MZ UNIT: 6

CFM-HTG: 6,790

CFM-CLG: 6,790

MIN %OA: 0

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: AIRTEMP

UNIT MODEL: BD15

SUPPLY FAN HP: 7.5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: MARATHON

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: CF213TTDR702

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 54

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	10	9	9	9	9	9	9
REQ STOP:	19	21	21	21	21	21	21

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: Y

MIXED AIR DMPR CONTROL: Y

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: Y

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/14/94  
PREPARED BY: AJN/AMS/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 6914

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: \_\_\_\_\_

☒ **BOILER**

BOILER TAG: BLR-1  
BOILER TYPE: HW (UP TO 250 DEG)  
FUEL TYPE: NAT. GAS

☐ **CONVERTER**

CONVERTER TAG: \_\_\_\_\_  
CONVERTER TYPE: \_\_\_\_\_  
CONV HT SOURCE: \_\_\_\_\_



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: \_\_\_\_\_

BOILER MFG: OSAGE

UNIT MODEL: 3-5-350

BLR CAP OUTPUT (BTUH): 1,600,000

BLR CAP INPUT (BTUH): 2,000,000

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 54

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	10	9	9	9	9	9	9
REQ STOP:	19	21	21	21	21	21	21

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: ☒ N

OPERATING SETPOINT: \_\_\_\_\_ DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: 1

PUMP HP: 5

PUMP MFG: MARATHON

PUMP SERVICE: HW PUMP

PUMP MODEL: CVH184TTDR2026

**HW PUMP**

PUMP TAG: 2

PUMP HP: 5

PUMP MFG: LEESON

PUMP SERVICE: HW PUMP

PUMP MODEL: N184117DBIA

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/14/94  
PREPARED BY: AJN/AMS/CWW

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 6914 BLDG NAME: EXC MAIN RETL  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: AHU-1,2,4,5  
UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

**NAMEPLATE**

CHILLER MFG:	COPELAMETIC	TOWER MFG:	
CHILLER MODEL:	6DK1-3500-TSK	# OF TOWER FANS:	16
CHILLER SERIAL NO:	88H75879	TOWER FAN V:	0
CHILLER V:	208	TOWER FAN AMPS:	0
CHILLER AMPS:	125	TOWER FAN HP:	0.33
CHILLER PH:	3		
CHILLER CAP (TONS):	127		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 54 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	10	9	9	9	9	9	9
REQ STOP:	19	21	21	21	21	21	21

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI:	<input type="checkbox"/>	TEMP LITE HI:	<input type="checkbox"/>	OTHER INDICATORS:
PRESS LITE LOW:	<input type="checkbox"/>	TEMP LITE LOW:	<input type="checkbox"/>	
PRESS GAUGES:	<input type="checkbox"/>	TEMP GAUGES:	<input type="checkbox"/>	

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 7.5 PUMP MFG: LINCOLN  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL: TV-2996



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/14/94  
PREPARED BY: AJN/AMS/CWW

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 6914 BLDG NAME: EXC MAIN RETL  
REF. UNIT NUMBER/TAG: CH-2 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: AHU-1,2,4,5  
UNIT TYPE: RECIPROCATING WITH AIR COOLED CONDENSING UNIT

**NAMEPLATE**

CHILLER MFG:	COPELAMETIC	TOWER MFG:	
CHILLER MODEL:	6DK1-3500-TSK	# OF TOWER FANS:	16
CHILLER SERIAL NO:	88H75879	TOWER FAN V:	0
CHILLER V:	208	TOWER FAN AMPS:	0
CHILLER AMPS:	125	TOWER FAN HP:	0.33
CHILLER PH:	3		
CHILLER CAP (TONS):	127		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 54 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	10	9	9	9	9	9	9
REQ STOP:	19	21	21	21	21	21	21

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☐ ☐ ☐ ☐ ☒ ☒ ☒ ☒ ☒ ☐ ☐ ☐

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC  
CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0  
PRESS LITE HI: ☐ N TEMP LITE HI: ☐ N OTHER INDICATIONS:  
PRESS LITE LOW: ☐ N TEMP LITE LOW: ☐ N  
PRESS GAUGES: ☐ N TEMP GAUGES: ☐ N

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 7.5 PUMP MFG: LINCOLN  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL: TV-2996

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 6914

FILE: 6914.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER MEZZANINE					
AHU TYPE:	SZ	MFG.:	SUPERIOR		MODEL:			
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
COMP. MOTOR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMP. MOTOR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
CT/ACCU FAN MTR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
CT/ACCU FAN MTR					DPR-ACT = Damper Actuator			
CT/ACCU FAN MTR					RP-ACT = Replace Actuator			
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:	FILTERS DIRTY							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:					RP-ACT = Replace Actuator			
					RP-BD = Replace Body			
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING: X	ESTIMATED QUANTITY:		10' @ 2-1/2"		
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 6914

FILE: 6914.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	MER MEZZANINE					
AHU TYPE:	SZ	MFG.:	AIRTEMP	MODEL:				
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:	
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:	
COMP. MOTOR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
COMP. MOTOR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
CT/ACCU FAN MTR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
CT/ACCU FAN MTR					DPR-ACT = Damper Actuator			
CT/ACCU FAN MTR					RP-ACT = Replace Actuator			
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	MAN. VALVES	RP-ACT: RP-BD:	
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: *	RP-ACT:X RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:	
COMMENTS: * CONTROL VALVE DISCONNECTED FROM AIR					RP-ACT = Replace Actuator			
					RP-BD = Replace Body			
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:	UGLY			
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 6914

FILE: 6914.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-3	LOCATION (Rm)	SHIPPING AREA					
AHU TYPE:	SZ	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:	
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:	
COMP. MOTOR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
COMP. MOTOR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
CT/ACCU FAN MTR	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
CT/ACCU FAN MTR	SPACE IS VERY HOT, EVEN THOUGH T-STAT SET AT 60 DEGREES F					DPR-ACT = Damper Actuator		
CT/ACCU FAN MTR						RP-ACT = Replace Actuator		
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP-ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP-ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:		3' 1-1/2" MISSING		
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
 CLIENT CONTRACT NO.: DACA 01-94-D-0033  
 LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 6914

FILE: 6914.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-4	LOCATION (Rm)	LEFT OF MAIN ENTRANCE					
AHU TYPE:	MZ-6	MFG.:	AIR TEMP	MODEL:	BD-15			
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
COMP. MOTOR	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMP. MOTOR	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
CT/ACCU FAN MTR	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
CT/ACCU FAN MTR	DAMPER ACTUATORS DISCONNECTED FROM PNEUMATIC LINES,						DPR-ACT = Damper Actuator	
CT/ACCU FAN MTR	NO PNEUMATIC AIR TO CONTROL VALVES. DAMPERS IN 100% RA						RP-ACT = Replace Actuator	
POSITION								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:X	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:X	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS: DEGRADED, 20' @ 2-1/2"								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 13 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 6914

FILE: 6914.XLS

**REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS**

CHILLER / EQUIP. NO.	CH-1,2	LOCATION (RM)	MER	
REFG. EQUIP. TYPE:	R-ACCU	MFG.:	MODEL:	
C-WCT = Centrifugal w/ Water Side Cooling Tower		R-ACCU = Reciprocating w/ Air Cooled Condensing Unit		
R-WCT = Reciprocating w/ Water Side Cooling Tower		ASB-WCT = Absorption w/ Water Side Cooling Tower		
ACCU = Air Cooled Condensing Unit		CT = Cooling Tower		
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A: X	OK:	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A: X	OK:	REPLACE:	SIZE:
CT/ACCU FAN MTR	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS: SEE OTHER SHEET FOR ACCU'S; TYPICAL OF CHILLER 2 ALSO.				
COOLING TOWER	N/A: X	OK:	REPLACE:	SIZE:
AIR COOLED COND.	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CHILLER INSUL.	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
CHW PIPE INSUL.	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
CHW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS: CW PUMP INSULATION IS MISSING				

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 13 Nov-94  
PREPARED BY: AJN  
CHECKED BY: AJN  
FILE: 6914.XLS

FILE: 6914.XLS

## 751

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 6914

FILE: 6914.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.		BLR-1		LOCATION (RM)		MER	
BOILER TYPE:		HW		MFG.: SUPERIOR		MODEL: 3-5-350	
CONVERTER TYPE:				MFG.:		MODEL:	
STM - Steam		STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Convertor			
HW - Hot Water		HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Convertor			
COMP. MOTOR		ATMOSPHERIC:		POWER: X		OK: X REPLACE:	
COMP. MOTOR		1984					
COMP. MOTOR							
COMP. MOTOR							
CT/ACCU FAN MTR							
CT/ACCU FAN MTR		N/A: X		OK:		REPLACE: SIZE:	
CT/ACCU FAN MTR		N/A: X		OK:		REPLACE: SIZE:	
COMMENTS:							
BLR INSULATION		N/A:		OK: X		MISSING: ESTIMATED QUANTITY:	
PIPE INSULATION		N/A:		OK:		MISSING: X ESTIMATED QUANTITY: 60' @ 4"	
COMMENTS:							
HW PUMP MOTOR		N/A:		OK: X		REPLACE: SIZE:	
HW PUMP SEALS		N/A:		OK: X		REPLACE: SIZE:	
HW PUMP MOTOR		N/A:		OK: X		REPLACE: SIZE:	
HW PUMP SEALS		N/A:		OK: X		REPLACE: SIZE:	
HW PUMP MOTOR		N/A:		OK:		REPLACE: SIZE:	
HW PUMP SEALS		N/A:		OK:		REPLACE: SIZE:	
HW PUMP MOTOR		N/A:		OK:		REPLACE: SIZE:	
HW PUMP SEALS		N/A:		OK:		REPLACE: SIZE:	
COMMENTS:							
CV PUMP MOTOR		N/A: X		OK:		REPLACE: SIZE:	
CV PUMP SEALS		N/A: X		OK:		REPLACE: SIZE:	
COMMENTS:							
CV INSULATION		N/A: X		OK:		MISSING: ESTIMATED QUANTITY:	
CV PIPE INSUL.		N/A: X		OK:		MISSING: ESTIMATED QUANTITY:	
COMMENTS:							



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/14/94  
PREPARED BY: AJN/CWW

**BUILDING DATA SURVEY OBSERVATIONS**BLDG NUMBER: BLDG NAME: ELECTRIC METER: CONDITIONED SQFT: GAS METER: SUSPECT ACM: **BUILDING OCCUPANCY SCHEDULE**BUILDING SCHEDULE NO: 

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
PRES STOP:	<input type="text" value="24"/>	<input type="text" value="24"/>	<input type="text" value="24"/>	<input type="text" value="24"/>	<input type="text" value="24"/>	<input type="text" value="24"/>	<input type="text" value="24"/>
REQ START:	<input type="text" value="11"/>	<input type="text" value="11"/>	<input type="text" value="11"/>	<input type="text" value="11"/>	<input type="text" value="11"/>	<input type="text" value="11"/>	<input type="text" value="11"/>
REQ STOP:	<input type="text" value="20"/>	<input type="text" value="20"/>	<input type="text" value="20"/>	<input type="text" value="20"/>	<input type="text" value="20"/>	<input type="text" value="20"/>	<input type="text" value="20"/>

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/14/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 6940  
AHU NUMBER: HV-1  
AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: NONE  
SERVES AREA: SWIMMING POOL  
% OF BLDG AREA HEATED: 77  
AHU UNIT TYPE: HEATING AND VENTILATING  
NUMBER OF ZONES IF MZ UNIT: 0  
CFM-HTG: 24,800  
MIN %OA: 100  
CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TEMTROL  
UNIT MODEL: BD-T31D  
SUPPLY FAN HP: 20  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: MARATHON  
RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 256 TTDR 7329CC  
RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 59  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	11	11	11	11	11	11	11
REQ STOP:	20	20	20	20	20	20	20

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
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**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 74  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: Y  
EXH AIR DMPR CONTROL: Y  
MIXED AIR DMPR CONTROL: Y  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLS? N  
TIME CLOCK: N  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS: HUMIDITY SENSORS ON OA AND RA

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/14/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 6940  
AHU NUMBER: HV-2  
AHU LOCATION: LOCKER RMS/STORAGE  
REFRIG SYS # SRVNG AHU: NONE  
SERVES AREA: LOCKER ROOMS/ STORAGE  
% OF BLDG AREA HEATED: 23

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 7,000  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TEMTROL  
UNIT MODEL:  
SUPPLY FAN HP: 5  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG:  
RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL:  
RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 59  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	11	11	11	11	11	11	11
REQ STOP:	20	20	20	20	20	20	20

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 75  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ Y  
RET AIR DMPR CONTROL: ☐ Y  
EXH AIR DMPR CONTROL: ☐ Y  
MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N  
IMPLEMENT DEMAND LIMIT CNTRLS? ☐ N  
TIME CLOCK: ☐ N  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS: CONTROLS IN POOR CONDITION

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/14/94  
PREPARED BY: AJN/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 6940

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒ **BOILER**

BOILER TAG: BLR-1

BOILER TYPE:

FUEL TYPE:

☐ **CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: OSAGE

UNIT MODEL: 3-5-350

BLR CAP OUTPUT (BTUH): 2,240,000

BLR CAP INPUT (BTUH): 2,800,000

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 59

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	11	11	11	11	11	11	11
REQ STOP:	20	20	20	20	20	20	20

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

**HW PUMP**

PUMP TAG: 1

PUMP HP: 2

PUMP MFG: BALDOR

PUMP SERVICE: HW PUMP

PUMP MODEL: M3155T

**HW PUMP**

PUMP TAG: 2

PUMP HP: 1

PUMP MFG: BELL &amp; GOSSETT

PUMP SERVICE: HW PUMP

PUMP MODEL:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

11 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

BLDG:

6940

FILE:

6940.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER
AHU TYPE:	SZ	MFG.:	TEMTRON
		MODEL:	BZ-T31D
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)	
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System	
DD - Dual Duct	UH - Unit Heater	IND - Induction System	
O.A. DAMPER	N/A:	OK: X	REPLACE:
R.A. DAMPER	N/A:	OK: X	REPLACE:
E.A. DAMPER	N/A:	OK: X	REPLACE:
F. & B. DAMPER	N/A:	OK:	REPLACE:
ZONE DAMPER	N/A:	OK:	REPLACE:
COMMENTS:	ACTUATORS LOOK OK, BUT STUCK OPEN.		
	ACTUATORS LOCATED IN FAR WALL OF POOL AREA ( 2 @ 6' X 3')		
	OPEN ~20%		
FILTER SECTION	N/A:	OK: X	REPLACE:
COMMENTS:			
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:
INLET VANES	N/A: X	OK:	COMMENTS:
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:
COMMENTS:	HUMIDITY METER IN AHU-1 BOX		
COOLING COIL	N/A: X	OK:	REPLACE:
HEATING COIL	N/A:	OK: X	REPLACE:
PREHEAT COIL	N/A: X	OK:	REPLACE:
REHEAT COIL	N/A: X	OK:	REPLACE:
COMMENTS:	RP-ACT = Replace Actuator		
	RP-BD = Replace Body		
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:
AHU PUMP SEALS	N/A:	OK: X	REPLACE:
COMMENTS:			
PIPE INSULATION	N/A:	OK:	MISSING: X
DUCT INSULATION	N/A: X	OK:	MISSING:
COMMENTS:	ESTIMATED QUANTITY: 15' @ 2"		

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 6940

FILE: 6940.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	MER CEILING MOUNTED					
AHU TYPE:	SZ	MFG.:	TEMTRON	MODEL:	_-106			
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	MISSING	RP- ACT: X	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK:	REPLACE FAN BEARINGS: X		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS: N/A				
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 6940

FILE: 6940.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	HW	MFG.: SUPERIOR	MODEL: 3-5-350
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X REPLACE:
COMMENTS:	SOME RUST ON TOP OF BOILER CASING; OTHERWISE IT LOOKS TO BE IN GOOD CONDITION		
BLR PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING: X ESTIMATED QUANTITY: 15' OF 4"
COMMENTS:			
HW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:			
CV PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			





**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JMAJN.AMS

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 8069

BLDG NAME: IN SW POOL/GYM

ELECTRIC METER: N

CONDITIONED SQFT: 25,620

GAS METER: N

SUSPECT ACM: N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 58

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	6	6	6	12	6	9
REQ STOP:	20	22	22	22	22	22	20

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JMAJN.AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8069  
AHU NUMBER: AHU-1 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: CENTRAL PLANT SERVES AREA: EXERCISE ROOM  
% OF BLDG AREA HEATED: 9

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 5,190 CFM-CLG: 5,190  
MIN %OA: 5 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: CENTRAL AIRE UNIT MODEL: L1016  
SUPPLY FAN HP: 3 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: CENTURY RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 6-322466-02 RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 54 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	10	9	9	9	9	9	9
REQ STOP:	19	21	21	21	21	21	21

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLs? N  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: Y ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JMAJN.AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER:	8069	AHU LOCATION:	MER
AHU NUMBER:	AHU-2		
REFRIG SYS # SRVNG AHU:	CENTRAL PLANT	SERVES AREA:	RACQUETBALL COURTS
		% OF BLDG AREA HEATED:	4
AHU UNIT TYPE	SINGLE ZONE	NUMBER OF ZONES IF MZ UNIT:	0
CFM-HTG:	2,125	CFM-CLG:	2,125
MIN %OA:	5	MAX %OA:	100

**NAMEPLATE**

UNIT MFG:	CENTRAL AIRE	UNIT MODEL:	L0613
SUPPLY FAN HP:	1.5	RET/EXH FAN HP:	0
SUPPLY FAN MTR MFG:	CENTURY	RET/EXH FAN MTR MFG:	
SUPPLY FAN MTR MODEL:	8-33257702	RET/EXH FAN MTR MODEL:	
COMMENTS:			

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO:	54	MONTH SCHEDULE NO:	3									
SCHEDULE COMMENTS:												
	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:					
PRES START:	0	0	0	0	0	0	0					
PRES STOP:	24	24	24	24	24	24	24					
REQ START:	10	9	9	9	9	9	9					
REQ STOP:	19	21	21	21	21	21	21					
MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS:	PNEUMATIC	THERMOSTAT TYPE:	SINGLE SETPOINT		
PRESENT TEMP WINTR OCC:	0	HOT DECK DEG F:	0		
PRESENT TEMP WINTR UNOCC:	0	COLD DECK DEG F:	0		
PRESENT TEMP SUM OCC:	0	MIXED AIR DEG F:	0		
PRESENT TEMP SUM UNOCC:	0	OTHER SETPOINT DESCRIP:			
		OTHER SETPOINT DEG F:	0		
MIN OA DMPR CONTROL:	<input type="checkbox"/>	MIXED AIR DMPR CONTROL:	<input type="checkbox"/>	IMPLEMENT DEMAND LIMIT CNTRLs?	<input type="checkbox"/>
MAX OA DMPR CONTROL:	<input type="checkbox"/>	ECONOMIZER DB CONTROL:	<input type="checkbox"/>	TIME CLOCK:	<input type="checkbox"/>
RET AIR DMPR CONTROL:	<input type="checkbox"/>	ECONOMIZER WB CONTROL:	<input type="checkbox"/>	TIME CLOCK OPERATIONAL?	<input type="checkbox"/>
EXH AIR DMPR CONTROL:	<input type="checkbox"/>				

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/12/94

PREPARED BY: JMAJN.AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8069  
AHU NUMBER: HV-1  
AHU LOCATION: BASKETBALL GYM  
REFRIG SYS # SRVNG AHU: NONE  
SERVES AREA: BASKETBALL GYM  
% OF BLDG AREA HEATED: 10

AHU UNIT TYPE: HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 6,750  
MIN %OA: 20

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG:   
UNIT MODEL: L1420  
SUPPLY FAN HP: 3  
RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: CENTURY  
RET/EXH FAN MTR MFG:   
SUPPLY FAN MTR MODEL: 6-322466-02  
RET/EXH FAN MTR MODEL:   
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 54  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	10	9	9	9	9	9	9
REQ STOP:	19	21	21	21	21	21	21

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:   
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLS? N  
TIME CLOCK: Y  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JMAJN.AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8069

AHU NUMBER: HV-2

AHU LOCATION: BASKETBALL GYM

REFRIG SYS # SRVNG AHU: NONE

SERVES AREA: BASKETBALL GYM

% OF BLDG AREA HEATED: 10

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 6,750

CFM-CLG: 0

MIN %OA: 20

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL: L1420

SUPPLY FAN HP: 3

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: CENTURY

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 6-322466-02

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 54

MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	10	9	9	9	9	9	9
REQ STOP:	19	21	21	21	21	21	21

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

OTHER SETPOINT DESCRIP:

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRL? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: Y

RET AIR DMPR CONTROL: N

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JMAJN.AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER:	8069	AHU LOCATION:	BASKETBALL GYM
AHU NUMBER:	HV-3		
REFRIG SYS # SRVNG AHU:	NONE	SERVES AREA:	BASKETBALL GYM
		% OF BLDG AREA HEATED:	10
AHU UNIT TYPE	HEATING AND VENTILATING	NUMBER OF ZONES IF MZ UNIT:	0
CFM-HTG:	6,750	CFM-CLG:	0
MIN %OA:	20	MAX %OA:	100

**NAMEPLATE**

UNIT MFG:		UNIT MODEL:	L1420
SUPPLY FAN HP:	3	RET/EXH FAN HP:	0
SUPPLY FAN MTR MFG:	CENTURY	RET/EXH FAN MTR MFG:	
SUPPLY FAN MTR MODEL:	B-322466-02	RET/EXH FAN MTR MODEL:	
COMMENTS:			

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO:	54	MONTH SCHEDULE NO:	1									
SCHEDULE COMMENTS:												
	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:					
PRES START:	0	0	0	0	0	0	0					
PRES STOP:	24	24	24	24	24	24	24					
REQ START:	10	9	9	9	9	9	9					
REQ STOP:	19	21	21	21	21	21	21					
MONTHS ON:	JAN: <input checked="" type="checkbox"/>	FEB: <input checked="" type="checkbox"/>	MAR: <input checked="" type="checkbox"/>	APR: <input checked="" type="checkbox"/>	MAY: <input type="checkbox"/>	JUN: <input type="checkbox"/>	JUL: <input type="checkbox"/>	AUG: <input type="checkbox"/>	SEP: <input type="checkbox"/>	OCT: <input checked="" type="checkbox"/>	NOV: <input checked="" type="checkbox"/>	DEC: <input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS:	PNEUMATIC	THERMOSTAT TYPE:	SINGLE SETPOINT		
PRESENT TEMP WINTR OCC:	0	HOT DECK DEG F:	0		
PRESENT TEMP WINTR UNOCC:	0	COLD DECK DEG F:	0		
PRESENT TEMP SUM OCC:	0	MIXED AIR DEG F:	0		
PRESENT TEMP SUM UNOCC:	0	OTHER SETPOINT DESCRIP:			
		OTHER SETPOINT DEG F:	0		
MIN OA DMPR CONTROL:	<input type="checkbox"/>	MIXED AIR DMPR CONTROL:	<input type="checkbox"/>	IMPLEMENT DEMAND LIMIT CNTRLs?	<input type="checkbox"/>
MAX OA DMPR CONTROL:	<input type="checkbox"/>	ECONOMIZER DB CONTROL:	<input type="checkbox"/>	TIME CLOCK:	<input type="checkbox"/>
RET AIR DMPR CONTROL:	<input type="checkbox"/>	ECONOMIZER WB CONTROL:	<input type="checkbox"/>	TIME CLOCK OPERATIONAL?	<input type="checkbox"/>
EXH AIR DMPR CONTROL:	<input type="checkbox"/>				
OTHER CONTROLS DESCR:					
CONTROLS COMMENTS:					

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JMAJN.AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8069  
AHU NUMBER: HV-4  
AHU LOCATION: BASKETBALL GYM  
REFRIG SYS # SRVNG AHU: NONE  
SERVES AREA: BASKETBALL GYM  
% OF BLDG AREA HEATED: 10

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 6,750  
MIN %OA: 20

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: SUPPLY FAN HP: 3  
SUPPLY FAN MTR MFG: CENTURY  
SUPPLY FAN MTR MODEL: 6-322466-02  
COMMENTS:  
UNIT MODEL: L1420  
RET/EXH FAN HP: 0  
RET/EXH FAN MTR MFG:  
RET/EXH FAN MTR MODEL:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 54  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	10	9	9	9	9	9	9
REQ STOP:	19	21	21	21	21	21	21

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: Y  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JMAJN.AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8069  
AHU NUMBER: HV-5  
AHU LOCATION: SWIMMING POOL  
REFRIG SYS # SRVNG AHU: NONE  
SERVES AREA: SWIMMING POOL  
% OF BLDG AREA HEATED: 7

AHU UNIT TYPE HEATING AND VENTILATING  
NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 4,500  
MIN %OA: 50  
CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: CENTRAL AIRE  
UNIT MODEL: L1016  
SUPPLY FAN HP: 2  
RET/EXH FAN HP:  
SUPPLY FAN MTR MFG: CENTURY  
RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 8-33-1262-03  
RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 58  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	6	6	6	12	6	9
REQ STOP:	20	22	22	22	22	22	20

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:

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**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: Y  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JMAJN.AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER:	8069	AHU LOCATION:	SWIMMING POOL
AHU NUMBER:	HV-6		
REFRIG SYS # SRVNG AHU:	NONE	SERVES AREA:	SWIMMING POOL
		% OF BLDG AREA HEATED:	7
AHU UNIT TYPE	HEATING AND VENTILATING	NUMBER OF ZONES IF MZ UNIT:	0
CFM-HTG:	4,500	CFM-CLG:	0
MIN %OA:	50	MAX %OA:	100

**NAMEPLATE**

UNIT MFG:	CENTRAL AIRE	UNIT MODEL:	L1016
SUPPLY FAN HP:	2	RET/EXH FAN HP:	0
SUPPLY FAN MTR MFG:	CENTURY	RET/EXH FAN MTR MFG:	
SUPPLY FAN MTR MODEL:	8-33-1262-03	RET/EXH FAN MTR MODEL:	
COMMENTS:			

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO:	58	MONTH SCHEDULE NO:	1									
SCHEDULE COMMENTS:												
	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:					
PRES START:	0	0	0	0	0	0	0					
PRES STOP:	24	24	24	24	24	24	24					
REQ START:	9	6	6	6	12	6	9					
REQ STOP:	20	22	22	22	22	22	20					
MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS:	PNEUMATIC	THERMOSTAT TYPE:	SINGLE SETPOINT
PRESENT TEMP WINTR OCC:	0	HOT DECK DEG F:	0
PRESENT TEMP WINTR UNOCC:	0	COLD DECK DEG F:	0
PRESENT TEMP SUM OCC:	0	MIXED AIR DEG F:	0
PRESENT TEMP SUM UNOCC:	0	OTHER SETPOINT DESCRIP:	
		OTHER SETPOINT DEG F:	0
MIN OA DMPR CONTROL:	<input type="checkbox"/> N	MIXED AIR DMPR CONTROL:	<input type="checkbox"/> N
MAX OA DMPR CONTROL:	<input type="checkbox"/> Y	ECONOMIZER DB CONTROL:	<input type="checkbox"/> N
RET AIR DMPR CONTROL:	<input type="checkbox"/> N	ECONOMIZER WB CONTROL:	<input type="checkbox"/> N
EXH AIR DMPR CONTROL:	<input type="checkbox"/> N	IMPLEMENT DEMAND LIMIT CNTRLs?	<input type="checkbox"/> N
		TIME CLOCK:	<input type="checkbox"/> Y
		TIME CLOCK OPERATIONAL?	<input type="checkbox"/> N

OTHER CONTROLS DESCR:   
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JMAJN.AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8069  
AHU NUMBER: HV-7  
AHU LOCATION: SWIMMING POOL  
REFRIG SYS # SRVNG AHU: NONE  
SERVES AREA: SWIMMING POOL  
% OF BLDG AREA HEATED: 7

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 4,500  
MIN %OA: 50

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: CENTRAL AIRE  
SUPPLY FAN HP: 2  
SUPPLY FAN MTR MFG: CENTURY  
SUPPLY FAN MTR MODEL: 8-33-1262-03  
COMMENTS:  
UNIT MODEL: L1016  
RET/EXH FAN HP: 0  
RET/EXH FAN MTR MFG:  
RET/EXH FAN MTR MODEL:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 58  
MONTH SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	6	6	6	12	6	9
REQ STOP:	20	22	22	22	22	22	20

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: N  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: Y  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JMAJN.AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8069  
AHU NUMBER: HV-8  
REFRIG SYS # SRVNG AHU: NONE  
AHU LOCATION: SWIMMING POOL  
SERVES AREA: SWIMMING POOL  
% OF BLDG AREA HEATED: 7

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 4,500  
MIN %OA: 50

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: CENTRAL AIRE  
SUPPLY FAN HP: 2  
SUPPLY FAN MTR MFG: CENTURY  
SUPPLY FAN MTR MODEL: 8-33-1262-03  
COMMENTS:  
UNIT MODEL: L1016  
RET/EXH FAN HP: 0  
RET/EXH FAN MTR MFG:  
RET/EXH FAN MTR MODEL:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 58  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	6	6	6	12	6	9
REQ STOP:	20	22	22	22	22	22	20

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐ N  
MAX OA DMPR CONTROL: ☐ Y  
RET AIR DMPR CONTROL: ☐ N  
EXH AIR DMPR CONTROL: ☐ N  
MIXED AIR DMPR CONTROL: ☐ N  
ECONOMIZER DB CONTROL: ☐ N  
ECONOMIZER WB CONTROL: ☐ N  
IMPLEMENT DEMAND LIMIT CNTRLs? ☐ N  
TIME CLOCK: ☐ Y  
TIME CLOCK OPERATIONAL? ☐ N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/12/94

PREPARED BY: JMAJN.AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 8069  
AHU NUMBER: HV-9  
REFRIG SYS # SRVNG AHU: NONE  
AHU LOCATION: MER  
SERVES AREA: 1ST FLOOR LOCKER ROOMS  
% OF BLDG AREA HEATED: 13

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 8,000  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: CENTRAL AIRE  
SUPPLY FAN HP: 5  
SUPPLY FAN MTR MFG: BALDOR  
SUPPLY FAN MTR MODEL: M3218T  
COMMENTS:  
UNIT MODEL: L1715  
RET/EXH FAN HP: 1.5  
RET/EXH FAN MTR MFG:  
RET/EXH FAN MTR MODEL:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 54  
MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	10	9	9	9	9	9	9
REQ STOP:	19	21	21	21	21	21	21

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:

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**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC  
THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0  
PRESENT TEMP WINTR UNOCC: 0  
PRESENT TEMP SUM OCC: 0  
PRESENT TEMP SUM UNOCC: 0  
HOT DECK DEG F: 0  
COLD DECK DEG F: 0  
MIXED AIR DEG F: 0  
OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N  
MAX OA DMPR CONTROL: Y  
RET AIR DMPR CONTROL: N  
EXH AIR DMPR CONTROL: N  
MIXED AIR DMPR CONTROL: Y  
ECONOMIZER DB CONTROL: N  
ECONOMIZER WB CONTROL: N  
IMPLEMENT DEMAND LIMIT CNTRLs? N  
TIME CLOCK: Y  
TIME CLOCK OPERATIONAL? N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JMAJN.AMS

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 8069

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☐ **BOILER**

BOILER TAG: \_\_\_\_\_

BOILER TYPE: \_\_\_\_\_

FUEL TYPE: \_\_\_\_\_

☒ **CONVERTER**

CONVERTER TAG: CV-1

CONVERTER TYPE: STM TO HW

CONV HT SOURCE: \_\_\_\_\_

**CENTRAL PLANT DIRECT****NAMEPLATE**

% AREA HEATED BY BB RADIATION: \_\_\_\_\_

BOILER MFG: \_\_\_\_\_

BLR CAP OUTPUT (BTUH): 1,000,000

UNIT MODEL: \_\_\_\_\_

BLR CAP INPUT (BTUH): \_\_\_\_\_

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 58

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	9	6	6	6	12	6	9
REQ STOP:	20	22	22	22	22	22	20

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: \_\_\_\_\_ DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: 1

PUMP HP: 7.5

PUMP MFG: DOERR

PUMP SERVICE: HW PUMP

PUMP MODEL: 91720AE78T

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JMAJN.AMS

**PERIMETER RADIATION SURVEY OBSERVATIONS**

BLDG NUMBER: 8069 BLDG NAME: IN SW POOL/GYM  
PER RAD (SYSTEM TAG) NO: RAD-1 RAD SYS LOCATION: SWIMMING POOL  
SOURCE OF HEATING: CENTRAL PLANT DIRECT SERVES AREA: SWIMMING POOL  
RADIATION UNIT TYPE: HW % AREA HTG: 6

**SCHEDULE**

DAYS SCHEDULE NO: 54 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	10	9	9	9	9	9	9
REQ STOP:	19	21	21	21	21	21	21

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF RAD. CONTROLS: ELECTRIC  
RADIATION CONTROL:  
OCC HT SPACE SP: 0  
UNOCC HT SPACE SP: 0  
RESET CONTROL: N  
CONTROL COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JMAJN.AMS

## REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 8069 BLDG NAME: IN SW POOL/GYM  
REF. UNIT NUMBER/TAG: CWP-1 LOCATION (MER#): MER  
AHU'S SERVED: AHU-1,2  
UNIT TYPE: OTHER

## NAMEPLATE

CHILLER MFG:		TOWER MFG:	
CHILLER MODEL:		# OF TOWER FANS:	0
CHILLER SERIAL NO:		TOWER FAN V:	0
CHILLER V:	0	TOWER FAN AMPS:	0
CHILLER AMPS:	0	TOWER FAN HP:	0
CHILLER PH:	0		
CHILLER CAP (TONS):	0		
COMMENTS:			

## SCHEDULE

DAYS SCHEDULE NO: 54 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	10	9	9	9	9	9	9
REQ STOP:	19	21	21	21	21	21	21

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT:	0	CNWS SETPOINT:	0
CWR SETPOINT:	0	CNWR SETPOINT:	0

PRESS LITE HI:	<input type="checkbox"/>	TEMP LITE HI:	<input type="checkbox"/>	OTHER INDICATIONS:
PRESS LITE LOW:	<input type="checkbox"/>	TEMP LITE LOW:	<input type="checkbox"/>	
PRESS GAUGES:	<input type="checkbox"/>	TEMP GAUGES:	<input type="checkbox"/>	

CONTROLS COMMENTS:

## CW and CNW PUMPS

PUMP TAG:	1	PUMP HP:	7.5	PUMP MFG:	
PUMP SERVICE:	CW PUMP (Chilled Water)			PUMP MODEL:	

## CW and CNW PUMPS

PUMP TAG:	2	PUMP HP:	0.5	PUMP MFG:	
PUMP SERVICE:	CW PUMP (Chilled Water)			PUMP MODEL:	

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: JMAJN.AMS

**REFRIGERATION EQUIPMENT SURVERY OBSERVATIONS**

**CW and CNW PUMPS**

PUMP TAG:	3	PUMP HP:	0.5	PUMP MFG:	
PUMP SERVICE:	CW PUMP (Chilled Water)			PUMP MODEL:	



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

7 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

BLDG:

**8069**

FILE:

8069.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	UPSTAIRS NEXT TO WORKOUT ROOM IN CEILING					
AHU TYPE:	SZ	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A		
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:		N/A		
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:	6' ON COIL PIPE			
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS: INSULATION BENT								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

7 Nov-94

PREPARED BY:

CWW

CHECKED BY:

AJN

BLDG:

8069

FILE:

8069.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	UPSTAIRS NEXT TO WORKOUT ROOM IN CEILING				
AHU TYPE:	SZ	MFG.:	MODEL:				
SZ - Single Zone	H&V - Heating & Vntlng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:		6' ON COIL PIPE	
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 8069

FILE: 8069.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	H&V-1-8	LOCATION (Rm)	CATWALK				
AHU TYPE:	H&V	MFG.:	MODEL:				
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)				
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System				
DD - Dual Duct	UH - Unit Heater		IND - Induction System				
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 7 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 8069

FILE: 8069.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	H&V-9	LOCATION (Rm)	MER MEZZANINE				
AHU TYPE:	H&V	MFG.:	AIR THERM	MODEL:	L1715		
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)				
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System				
DD - Dual Duct	UH - Unit Heater		IND - Induction System				
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS: FACE & BYPASS PNEUMATIC							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS: N/A			
COMMENTS:							
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER:  BLDG NAME:   
ELECTRIC METER:  CONDITIONED SQFT:   
GAS METER:   
SUSPECT ACM:

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
PRES STOP:	<input type="text" value="24"/>	<input type="text" value="24"/>	<input type="text" value="24"/>	<input type="text" value="24"/>	<input type="text" value="24"/>	<input type="text" value="24"/>	<input type="text" value="24"/>
REQ START:	<input type="text" value="0"/>	<input type="text" value="6"/>	<input type="text" value="6"/>	<input type="text" value="6"/>	<input type="text" value="6"/>	<input type="text" value="6"/>	<input type="text" value="0"/>
REQ STOP:	<input type="text" value="0"/>	<input type="text" value="17"/>	<input type="text" value="17"/>	<input type="text" value="17"/>	<input type="text" value="17"/>	<input type="text" value="17"/>	<input type="text" value="0"/>

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER:	0722	AHU LOCATION:	SIMULATOR ROOM
AHU NUMBER:	AHU-1		
REFRIG SYS # SRVNG AHU:	CH-1	SERVES AREA:	SIMULATOR EQUIPMENT RM
		% OF BLDG AREA HEATED:	50
AHU UNIT TYPE	SINGLE ZONE	NUMBER OF ZONES IF MZ UNIT:	0
CFM-HTG:	15,590	CFM-CLG:	15,590
MIN %OA:	0	MAX %OA:	100

**NAMEPLATE**

UNIT MFG:		UNIT MODEL:	
SUPPLY FAN HP:	20	RET/EXH FAN HP:	0
SUPPLY FAN MTR MFG:	FAIRBANKS MOR	RET/EXH FAN MTR MFG:	
SUPPLY FAN MTR MODEL:	KZK	RET/EXH FAN MTR MODEL:	
COMMENTS:			

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO:	1	MONTH SCHEDULE NO:	3									
SCHEDULE COMMENTS:												
	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:					
PRES START:	0	0	0	0	0	0	0					
PRES STOP:	24	24	24	24	24	24	24					
REQ START:	0	6	6	6	6	6	0					
REQ STOP:	0	16	16	16	16	16	0					
MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS:	PNEUMATIC	THERMOSTAT TYPE:	SINGLE SETPOINT		
PRESENT TEMP WINTR OCC:	0	HOT DECK DEG F:	0		
PRESENT TEMP WINTR UNOCC:	0	COLD DECK DEG F:	0		
PRESENT TEMP SUM OCC:	0	MIXED AIR DEG F:	0		
PRESENT TEMP SUM UNOCC:	0	OTHER SETPOINT DESCRIP:			
		OTHER SETPOINT DEG F:	0		
MIN OA DMPR CONTROL:	N	MIXED AIR DMPR CONTROL:	N	IMPLEMENT DEMAND LIMIT CNTRLs?	N
MAX OA DMPR CONTROL:	Y	ECONOMIZER DB CONTROL:	N	TIME CLOCK:	N
RET AIR DMPR CONTROL:	Y	ECONOMIZER WB CONTROL:	N	TIME CLOCK OPERATIONAL?	N
EXH AIR DMPR CONTROL:	N				
OTHER CONTROLS DESCR:					
CONTROLS COMMENTS:					

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0722

AHU NUMBER: AHU-2

AHU LOCATION: MEZZANINE MER

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: SIMULATOR EQUIP. ROOM

% OF BLDG AREA HEATED: 30

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 7,500

CFM-CLG: 7,500

MIN %OA: 20

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 1

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: GE

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL: 5K215AD205B

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	ATOMIZERS	<input checked="" type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 1

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 65

OTHER SETPOINT DESCRIP:

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: Y

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? N

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: N

TIME CLOCK: N

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? N

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0722

AHU NUMBER: AHU-3

AHU LOCATION: MEZZANINE MER

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: ADMIN OFFICES, CLASSROOM

% OF BLDG AREA HEATED: 20

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 4,050

MIN %OA: 25

CFM-CLG: 4,050

MAX %OA: 100

**NAMEPLATE**

UNIT MFG:

UNIT MODEL:

SUPPLY FAN HP: 5

RET/EXH FAN HP: 5

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 1

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 60

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLs? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0722  
AHU NUMBER: AHU-4 AHU LOCATION: SIMULATION RM  
REFRIG SYS # SRVNG AHU: CH-2 SERVES AREA: COMPUTER RM  
% OF BLDG AREA HEATED: 0

AHU UNIT TYPE AC NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0 CFM-CLG: 6,400  
MIN %OA: 0 MAX %OA: 0

**NAMEPLATE**

UNIT MFG: PAC UNIT MODEL: CUXC-12  
SUPPLY FAN HP: 3 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 1 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 72 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 70 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRL? N  
MAX OA DMPR CONTROL: N ECONOMIZER DB CONTROL: N TIME CLOCK: N  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

### BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0722

BOILER RM LOCATION: 2ND FL. MER

#### BOILER UNIT

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: AHU-1,2,3



##### BOILER

BOILER TAG: BLR-1

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS



##### CONVERTER

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

#### NAMEPLATE

% AREA HEATED BY BB RADIATION:

BOILER MFG: BURNHAM

UNIT MODEL: 4FW92SPLOGP

BLR CAP OUTPUT (BTUH): 480,100

BLR CAP INPUT (BTUH): 602,000

COMMENTS:

#### SCHEDULE

DAYS SCHEDULE NO: 4

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	17	17	17	17	17	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

#### HW PUMP

PUMP TAG: 1

PUMP HP: 3

PUMP MFG:

PUMP SERVICE: HW PUMP

PUMP MODEL:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 0722

BLDG NAME: FLIGHT SIMULATOR

REF. UNIT NUMBER/TAG: CH-1

LOCATION (MER#): OUTSIDE

AHU'S SERVED: AHU-1,2,3

UNIT TYPE AIR COOLED CONDENSING UNIT W/ CHW

### NAMEPLATE

CHILLER MFG: TSI  
CHILLER MODEL: CA2CD70  
CHILLER SERIAL NO:  
CHILLER V: 480  
CHILLER AMPS: 67.5  
CHILLER PH: 3  
CHILLER CAP (TONS): 70

TOWER MFG:  
# OF TOWER FANS: 6  
TOWER FAN V: 480  
TOWER FAN AMPS: 2.3  
TOWER FAN HP: 1

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 1

MONTHS SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON: JAN: ☐ FEB: ☐ MAR: ☐ APR: ☐ MAY: ☒ JUN: ☒ JUL: ☒ AUG: ☒ SEP: ☒ OCT: ☐ NOV: ☐ DEC: ☐

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐

TEMP LITE HI: ☐

OTHER INDICATIONS:

PRESS LITE LOW: ☐

TEMP LITE LOW: ☐

PRESS GAUGES: ☐

TEMP GAUGES: ☐

CONTROLS COMMENTS:

### CW and CNW PUMPS

PUMP TAG: 1 PUMP HP: 5

PUMP MFG:

PUMP SERVICE: CW PUMP (Chilled Water)

PUMP MODEL:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

## REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 0722 BLDG NAME: FLIGHT SIMULATOR  
REF. UNIT NUMBER/TAG: CH-2 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: AHU-4  
UNIT TYPE AIR COOLED CONDENSING UNIT W/ CHW

### NAMEPLATE

CHILLER MFG:	LARKIN	TOWER MFG:	
CHILLER MODEL:	PFG16	# OF TOWER FANS:	2
CHILLER SERIAL NO:		TOWER FAN V:	0
CHILLER V:	460	TOWER FAN AMPS:	0
CHILLER AMPS:	2.2	TOWER FAN HP:	0.5
CHILLER PH:	3		
CHILLER CAP (TONS):	16		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 1 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT:	0	CNWS SETPOINT:	0
CWR SETPOINT:	0	CNWR SETPOINT:	0
PRESS LITE HI:	<input type="checkbox"/>	TEMP LITE HI:	<input type="checkbox"/>
PRESS LITE LOW:	<input type="checkbox"/>	TEMP LITE LOW:	<input type="checkbox"/>
PRESS GAUGES:	<input type="checkbox"/>	TEMP GAUGES:	<input type="checkbox"/>

OTHER INDICATIONS:

CONTROLS COMMENTS:

### CW and CNW PUMPS

PUMP TAG: 1 PUMP HP: 0.5 PUMP MFG:   
PUMP SERVICE: PUMP MODEL:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 722

FILE: 722.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)						
AHU TYPE:	SZ	MFG.:				MODEL:		
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:		20 HP - FAIRBANKS MORRIS					DPR-ACT = Damper Actuator	
							RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS: N/A				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:		PNEUMATIC					RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

BLDG: 722

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

FILE: 722.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	MEZZANINE MER					
AHU TYPE:	SZ	MFG.:	AIRTEMP	MODEL: AV170				
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS: GE 10 HP MOTOR								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS: X	COMMENTS: EITHER FAN OR MOTOR					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS: BEARINGS ARE BAD					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE: CLEAN	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE: CLEAN	SIZE:	CNTLVLV	OK:	RP- ACT:X RP-BD:X	
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 722

FILE: 722.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-3	LOCATION (Rm)	MEZZANINE MER				
AHU TYPE:	SZ	MFG.:	MODEL:				
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)				
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System				
DD - Dual Duct	UH - Unit Heater		IND - Induction System				
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
COMMENTS:					DPR-ACT = Damper Actuator		
					RP-ACT = Replace Actuator		
FILTER SECTION	N/A:	OK:	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS: 5 - 7.5 HP			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT:X
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP-ACT:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT:
COMMENTS:					RP-ACT = Replace Actuator		
					RP-BD = Replace Body		
AHU PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 722

FILE: 722.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-4	LOCATION (Rm)	SIMULATION ROOM					
AHU TYPE:	SZ	MFG.:	ED PAC	MODEL:	CUXC-12			
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	100% RETURN AIR. COOLING COIL ONLY INSIDE UNIT. HUMIDITY						DPR-ACT = Damper Actuator	
	CONTROLLER						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
HEATING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:							RP-ACT = Replace Actuator	
							RP-BD = Replace Body	
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								



PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 10 Nov-94  
PREPARED BY: AJN  
CHECKED BY: AJN

FILE: 722.XLS

REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS					
CHILLER / EQUIP. NO.	CH-1	LOCATION (RM)	OUTSIDE		
REFG. EQUIP. TYPE:	R-ACCU	MFG.:	TSI	MODEL:	30A OCD75
C-WCT = Centrifugal w/ Water Side Cooling Tower			R-ACCU = Reciprocating w/ Air Cooled Condensing Unit		
R-WCT = Reciprocating w/ Water Side Cooling Tower			ASB-WCT = Absorption w/ Water Side Cooling Tower		
ACCU = Air Cooled Condensing Unit			CT = Cooling Tower		
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	68 RLA @ 460V
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	56 RLA @ 460V
COMP. MOTOR	N/A:	OK:	REPLACE:	SIZE:	
COMP. MOTOR	N/A:	OK:	REPLACE:	SIZE:	
CT/ACCU FAN MTR	N/A:	OK: X	REPLACE:	SIZE:	
CT/ACCU FAN MTR	N/A:	OK: X	REPLACE:	SIZE:	
CT/ACCU FAN MTR	N/A:	OK: X	REPLACE:	SIZE:	
COMMENTS:	TYPICAL OF 6				
BRAND NEW R-ACCU (NOT HOOKED-UP YET)					
COOLING TOWER	N/A: X	OK:	REPLACE:	SIZE:	
AIR COOLED COND.	N/A: X	OK:	REPLACE:	SIZE:	
COMMENTS:					
CHILLER INSUL.	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:	
CHW PIPE INSUL.	N/A:	OK:	MISSING: X	ESTIMATED QUANTITY:	30' @ 6"
COMMENTS:					
CHW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:	5 HP
CHW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:	
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
COMMENTS:	HEAT TAPE ON EXPOSED PIPE				

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 10 Nov-94  
PREPARED BY: AJN  
CHECKED BY: AJN  
FILE: 722.XLS

FILE: 722.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 722

FILE: 722.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MEZZANINE MER	
BOILER TYPE:	HW	MFG.: BURNHAM	MODEL: 4FW-92-5PL-O-GP	
CONVERTER TYPE:		MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.		HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.		DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER:	OK:	REPLACE: X
COMMENTS:				
BLR PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE: 1/3 HP
BLR PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTO	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTO	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTO	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
HW PUMP MOTO	N/A:	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: JM/AJN/AMS

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 0724

BLDG NAME: FLIGHT SIMULATOR

ELECTRIC METER: ☒

CONDITIONED SQFT: 13,188

GAS METER: ☒

SUSPECT ACM: ☐

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 1

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

**REMARKS:**

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

## AIR HANDLING UNIT SURVEY OBSERVATIONS

BUILDING NUMBER: 0724  
AHU NUMBER: AHU-1 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: OFFICES  
% OF BLDG AREA HEATED: 60

AHU UNIT TYPE MULTI ZONE NUMBER OF ZONES IF MZ UNIT: 3

CFM-HTG: 6,200 CFM-CLG: 6,200  
MIN %OA: 10 MAX %OA: 100

## NAMEPLATE

UNIT MFG: TRANE UNIT MODEL: CCDB14CDCHO  
SUPPLY FAN HP: 7.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

## COILS

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

## SCHEDULE

DAY SCHEDULE NO: 11 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
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## CONTROLS

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLS? N  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: N TIME CLOCK: Y  
RET AIR DMPR CONTROL: N ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? N  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER:	0724	AHU LOCATION:	MER
AHU NUMBER:	AHU-2		
REFRIG SYS # SRVNG AHU:	CH-2	SERVES AREA:	COMPUTER ROOM
		% OF BLDG AREA HEATED:	40
AHU UNIT TYPE	SINGLE ZONE	NUMBER OF ZONES IF MZ UNIT:	0
CFM-HTG:	6,000	CFM-CLG:	6,000
MIN %OA:	10	MAX %OA:	100

**NAMEPLATE**

UNIT MFG:	TRANE	UNIT MODEL:	CCDB12CEMJ
SUPPLY FAN HP:	7.5	RET/EXH FAN HP:	0
SUPPLY FAN MTR MFG:	CENTURY	RET/EXH FAN MTR MFG:	
SUPPLY FAN MTR MODEL:	6-35741601	RET/EXH FAN MTR MODEL:	
COMMENTS:			

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO:	11	MONTH SCHEDULE NO:	3									
SCHEDULE COMMENTS:												
	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:					
PRES START:	0	0	0	0	0	0	0					
PRES STOP:	24	24	24	24	24	24	24					
REQ START:	0	7	7	7	7	7	0					
REQ STOP:	0	16	16	16	16	16	0					
MONTHS ON:	JAN: <input checked="" type="checkbox"/>	FEB: <input checked="" type="checkbox"/>	MAR: <input checked="" type="checkbox"/>	APR: <input checked="" type="checkbox"/>	MAY: <input checked="" type="checkbox"/>	JUN: <input checked="" type="checkbox"/>	JUL: <input checked="" type="checkbox"/>	AUG: <input checked="" type="checkbox"/>	SEP: <input checked="" type="checkbox"/>	OCT: <input checked="" type="checkbox"/>	NOV: <input checked="" type="checkbox"/>	DEC: <input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS:	PNEUMATIC	THERMOSTAT TYPE:	SINGLE SETPOINT		
PRESENT TEMP WINTR OCC:	0	HOT DECK DEG F:	0		
PRESENT TEMP WINTR UNOCC:	0	COLD DECK DEG F:	0		
PRESENT TEMP SUM OCC:	0	MIXED AIR DEG F:	0		
PRESENT TEMP SUM UNOCC:	0	OTHER SETPOINT DESCRIP:			
		OTHER SETPOINT DEG F:	0		
MIN OA DMPR CONTROL:	<input type="checkbox"/> N	MIXED AIR DMPR CONTROL:	<input type="checkbox"/> N	IMPLEMENT DEMAND LIMIT CNTRLs?	<input type="checkbox"/> N
MAX OA DMPR CONTROL:	<input type="checkbox"/> Y	ECONOMIZER DB CONTROL:	<input type="checkbox"/> N	TIME CLOCK:	<input type="checkbox"/> Y
RET AIR DMPR CONTROL:	<input type="checkbox"/> Y	ECONOMIZER WB CONTROL:	<input type="checkbox"/> N	TIME CLOCK OPERATIONAL?	<input type="checkbox"/> N
EXH AIR DMPR CONTROL:	<input type="checkbox"/> N				
OTHER CONTROLS DESCR:					
CONTROLS COMMENTS:					

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0724  
AHU NUMBER: CRU-1 AHU LOCATION: COMPUTER ROOM  
REFRIG SYS # SRVNG AHU: CH-3,4 SERVES AREA: COMPUTER ROOM  
% OF BLDG AREA HEATED: 0

AHU UNIT TYPE OTHER NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0 CFM-CLG: 8,600  
MIN %OA: 0 MAX %OA: 0

**NAMEPLATE**

UNIT MFG: LIEBERT UNIT MODEL: FE192GVA10  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	ELECTRIC	<input type="checkbox"/>
HUMIDIFIER:	ELECTRIC	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 11 MONTH SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
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**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☐ MIXED AIR DMPR CONTROL: ☐ IMPLEMENT DEMAND LIMIT CNTRLS? ☐  
MAX OA DMPR CONTROL: ☐ ECONOMIZER DB CONTROL: ☐ TIME CLOCK: ☐  
RET AIR DMPR CONTROL: ☐ ECONOMIZER WB CONTROL: ☐ TIME CLOCK OPERATIONAL? ☐  
EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/18/94

PREPARED BY: JM/AJN/AMS

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 0724

AHU NUMBER: CRU-2

AHU LOCATION: COMPUTER ROOM

REFRIG SYS # SRVNG AHU: CH-3,4

SERVES AREA: COMPUTER ROOM

% OF BLDG AREA HEATED: 0

AHU UNIT TYPE OTHER

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 0

CFM-CLG: 8,600

MIN %OA: 0

MAX %OA: 0

**NAMEPLATE**

UNIT MFG: LIEBERT

UNIT MODEL: FE192GVA10

SUPPLY FAN HP: 5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	NONE	<input type="checkbox"/>
REHEAT COIL:	ELECTRIC	<input type="checkbox"/>
HUMIDIFIER:	ELECTRIC	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 11

MONTH SCHEDULE NO: 2

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: ☐MIXED AIR DMPR CONTROL: ☐IMPLEMENT DEMAND LIMIT CNTRLs? ☐MAX OA DMPR CONTROL: ☐ECONOMIZER DB CONTROL: ☐TIME CLOCK: ☐RET AIR DMPR CONTROL: ☐ECONOMIZER WB CONTROL: ☐TIME CLOCK OPERATIONAL? ☐EXH AIR DMPR CONTROL: ☐

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 0724

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE:



#### BOILER

BOILER TAG: BLR-1  
BOILER TYPE: HW (UP TO 250 DEG)  
FUEL TYPE: NAT. GAS



#### CONVERTER

CONVERTER TAG:  
CONVERTER TYPE:  
CONV HT SOURCE:



#### CENTRAL PLANT DIRECT

### NAMEPLATE

% AREA HEATED BY BB RADIATION:

BOILER MFG: AJAX

UNIT MODEL: WGFD-450

BLR CAP OUTPUT (BTUH): 360,000

BLR CAP INPUT (BTUH): 450,000

COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 1

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	6	6	6	6	6	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC

RESET CONTROLS: N

OPERATING SETPOINT: DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

### HW PUMP

PUMP TAG: 1

PUMP HP: 3

PUMP MFG: MARATHON

PUMP SERVICE: HW PUMP

PUMP MODEL: VBK215TTDR7026HTL

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 0724 BLDG NAME: FLIGHT SIMULATOR  
REF. UNIT NUMBER/TAG: CH-4 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: CRU-1,2  
UNIT TYPE AIR COOLED CONDENSING UNIT, DX

### NAMEPLATE

CHILLER MFG: PRYCODER	TOWER MFG:
CHILLER MODEL: DSO419A	# OF TOWER FANS: 4
CHILLER SERIAL NO:	TOWER FAN V: 460
CHILLER V: 460	TOWER FAN AMPS: 0
CHILLER AMPS: 0	TOWER FAN HP: 0.75
CHILLER PH: 3	
CHILLER CAP (TONS): 10	
COMMENTS:	

### SCHEDULE

DAYS SCHEDULE NO: 11 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 64 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI: ☐ TEMP LITE HI: ☐ OTHER INDICATIONS:  
PRESS LITE LOW: ☐ TEMP LITE LOW: ☐  
PRESS GAUGES: ☐ TEMP GAUGES: ☐

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 0724 BLDG NAME: FLIGHT SIMULATOR  
REF. UNIT NUMBER/TAG: CH-3 LOCATION (MER#): OUTSIDE  
AHU'S SERVED: CRU-1,2  
UNIT TYPE: AIR COOLED CONDENSING UNIT, DX

**NAMEPLATE**

CHILLER MFG:	PRYCODER	TOWER MFG:	
CHILLER MODEL:	DSO419A	# OF TOWER FANS:	4
CHILLER SERIAL NO:		TOWER FAN V:	460
CHILLER V:	460	TOWER FAN AMPS:	0
CHILLER AMPS:	0	TOWER FAN HP:	0.75
CHILLER PH:	3		
CHILLER CAP (TONS):	10		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 11 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT:	64	CNWS SETPOINT:	0
CWR SETPOINT:	0	CNWR SETPOINT:	0

PRESS LITE HI:	<input type="checkbox"/>	TEMP LITE HI:	<input type="checkbox"/>	OTHER INDICATIONS:
PRESS LITE LOW:	<input type="checkbox"/>	TEMP LITE LOW:	<input type="checkbox"/>	
PRESS GAUGES:	<input type="checkbox"/>	TEMP GAUGES:	<input type="checkbox"/>	

CONTROLS COMMENTS:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

### REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS

BLDG NUMBER: 0724 BLDG NAME: FLIGHT SIMULATOR  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): OUTSIDE  
AHU'S SERVED:  
UNIT TYPE AIR COOLED CONDENSING UNIT W/ CHW

### NAMEPLATE

CHILLER MFG:	TRANE	TOWER MFG:	
CHILLER MODEL:	CGADC254ABAIGTJWR	# OF TOWER FANS:	3
CHILLER SERIAL NO:		TOWER FAN V:	460
CHILLER V:	460	TOWER FAN AMPS:	1.8
CHILLER AMPS:	23.5	TOWER FAN HP:	1
CHILLER PH:	3		
CHILLER CAP (TONS):	25		
COMMENTS:			

### SCHEDULE

DAYS SCHEDULE NO: 11 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### CONTROLS

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT:	0	CNWS SETPOINT:	0
CWR SETPOINT:	0	CNWR SETPOINT:	0
PRESS LITE HI:	<input type="checkbox"/>	TEMP LITE HI:	<input type="checkbox"/>
PRESS LITE LOW:	<input type="checkbox"/>	TEMP LITE LOW:	<input type="checkbox"/>
PRESS GAUGES:	<input type="checkbox"/>	TEMP GAUGES:	<input type="checkbox"/>

OTHER INDICATIONS:

CONTROLS COMMENTS:

### CW and CNW PUMPS

PUMP TAG: 1 PUMP HP: 3 PUMP MFG:  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/18/94  
PREPARED BY: JM/AJN/AMS

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 0724 BLDG NAME: FLIGHT SIMULATOR

REF. UNIT NUMBER/TAG: CH-2 LOCATION (MER#): OUTSIDE

AHU'S SERVED: AHU-2

UNIT TYPE AIR COOLED CONDENSING UNIT W/ CHW

**NAMEPLATE**

CHILLER MFG:	TRANE	TOWER MFG:	
CHILLER MODEL:		# OF TOWER FANS:	3
CHILLER SERIAL NO:		TOWER FAN V:	460
CHILLER V:	460	TOWER FAN AMPS:	1.8
CHILLER AMPS:	17.2	TOWER FAN HP:	1
CHILLER PH:	3		
CHILLER CAP (TONS):	20		

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 11 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0

CNWS SETPOINT: 0

CWR SETPOINT: 0

CNWR SETPOINT: 0

PRESS LITE HI: ☐ N  
PRESS LITE LOW: ☐ N  
PRESS GAUGES: ☐ N

TEMP LITE HI: ☐ N  
TEMP LITE LOW: ☐ N  
TEMP GAUGES: ☐ N

OTHER INDICATIONS:

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 1  
PUMP SERVICE: CW PUMP (Chilled Water)

PUMP MFG: MARATHON  
PUMP MODEL: VDC182TTDR7026DF

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 724

FILE: 724.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER				
AHU TYPE:	MZ	MFG.:	TRANE	MODEL:			
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)				
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System				
DD - Dual Duct	UH - Unit Heater		IND - Induction System				
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:
COMMENTS:							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS:							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 724

FILE: 724.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	MER					
AHU TYPE:	SZ	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)						
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System						
DD - Dual Duct	UH - Unit Heater	IND - Induction System						
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:								
DPR-ACT = Damper Actuator								
RP-ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:	RP-BD:
COMMENTS:								
RP-ACT = Replace Actuator								
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 724

FILE: 724.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-3	LOCATION (Rm)	COMPUTER ROOM				
AHU TYPE:	SZ	MFG.:	LIEBERT	MODEL:			
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)				
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System				
DD - Dual Duct	UH - Unit Heater		IND - Induction System				
O.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
R.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:
COMMENTS:							DPR-ACT = Damper Actuator
							RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:			
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:			
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A			
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:			
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP-ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:(NONE)	RP-ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:
COMMENTS:							RP-ACT = Replace Actuator
							RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 10 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN  
FILE: 724.XLS

FILE: 724.XLS

[illegible]



**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 10 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 724

FILE: 724.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER	
BOILER TYPE:	HW	MFG.: AJAX	MODEL: WGFD-450	
CONVERTER TYPE:		MFG.:	MODEL:	
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor		
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor		
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X	REPLACE:
COMMENTS:				
BLR PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
BLR INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				
HW PUMP MOTOR	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:
COMMENTS:				
CV INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:
COMMENTS:				

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: CWWW/AJN

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: **7739** BLDG NAME: **MOVING TARGET SIM BLDG**  
ELECTRIC METER: **N** CONDITIONED SQFT: **4,074**  
GAS METER: **N**  
SUSPECT ACM: **Y**

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: **11**

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
PRES STOP:	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>	<b>24</b>
REQ START:	<b>0</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>0</b>
REQ STOP:	<b>0</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>0</b>

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: CWW/AJN

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7739  
AHU NUMBER: AHU-1 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: ALL  
% OF BLDG AREA HEATED: 80

AHU UNIT TYPE MULTI ZONE NUMBER OF ZONES IF MZ UNIT: 3

CFM-HTG: 7,064 CFM-CLG: 7,064  
MIN %OA: 15 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE UNIT MODEL: CLIMATE CHANG  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: U.S. ELECTRICAL RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: A907 RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	DX	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 11 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☒ MIXED AIR DMPR CONTROL: ☒ IMPLEMENT DEMAND LIMIT CNTRLs? ☒  
MAX OA DMPR CONTROL: ☒ ECONOMIZER DB CONTROL: ☒ TIME CLOCK: ☒  
RET AIR DMPR CONTROL: ☒ ECONOMIZER WB CONTROL: ☒ TIME CLOCK OPERATIONAL? ☒  
EXH AIR DMPR CONTROL: ☒

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

# EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: CWW/AJN

## BOILER AND CONVERTER SURVEY OBSERVATIONS

BUILDING NUMBER: 7739

BOILER RM LOCATION: MER

### BOILER UNIT

SOURCE OF BLDG HEAT BLR/CONVERTER SERVES AREA OR SERVICE: ALL

<input checked="" type="radio"/> <b>BOILER</b> BOILER TAG: BLR-1 BOILER TYPE: HW (UP TO 250 DEG) FUEL TYPE: NAT. GAS	<input type="radio"/> <b>CONVERTER</b> CONVERTER TAG: CONVERTER TYPE: CONV HT SOURCE:
<input type="radio"/> <b>CENTRAL PLANT DIRECT</b>	

### NAMEPLATE

% AREA HEATED BY BB RADIATION: 20

BOILER MFG: CRANE CO. BLR CAP OUTPUT (BTUH): 308,000  
UNIT MODEL: 200-385 BLR CAP INPUT (BTUH): 385,000  
COMMENTS:

### SCHEDULE

DAYS SCHEDULE NO: 11 MONTH SECHDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☐ ☐ ☐ ☐ ☐ ☒ ☒ ☒

### CONTROLS

TYPE OF BLR CONTROLS: ELECTRIC  
OPERATING SETPOINT: DEG F or PSIG  
TYPE OF BURNER CONTROLS:  
RESET CONTROLS: Y  
CONTROLS COMMENTS:

### HW PUMP

PUMP TAG: 1 PUMP HP: 0.08 PUMP MFG: MARATHON  
PUMP SERVICE: HW PUMP PUMP MODEL:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: CWW/AJN

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER: 7739 BLDG NAME: MOVING TARGET SIM BLDG  
PER RAD (SYSTEM TAG) NO: RAD-1 RAD SYS LOCATION: MAINT. STORAGE ROOM, OFFIC  
SOURCE OF HEATING: SERVES AREA:  
RADIATION UNIT TYPE: HW % AREA HTG: 20

### RADIATION PUMP

PUMP TAG: 1 PUMP HP: 0.08 PUMP MFG:  
PUMP MODEL:

### SCHEDULE

DAYS SCHEDULE NO: 11 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS: ELECTRIC

RADIATION CONTROL:

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: N

CONTROL COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: CWW/AJN

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 7739 BLDG NAME: MOVING TARGET SIM BLDG  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): EAST EXTERIOR OF BL  
AHU'S SERVED: AHU-1  
UNIT TYPE AIR COOLED CONDENSING UNIT, DX

**NAMEPLATE**

CHILLER MFG:	TRANE	TOWER MFG:	
CHILLER MODEL:	RAUA-2006MA	# OF TOWER FANS:	3
CHILLER SERIAL NO:	3H-16081	TOWER FAN V:	200
CHILLER V:	200	TOWER FAN AMPS:	5.8
CHILLER AMPS:	89	TOWER FAN HP:	1
CHILLER PH:	3		
CHILLER CAP (TONS):	20		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 11 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI:	<input type="checkbox"/>	TEMP LITE HI:	<input type="checkbox"/>	OTHER INDICATORS:
PRESS LITE LOW:	<input type="checkbox"/>	TEMP LITE LOW:	<input type="checkbox"/>	
PRESS GAUGES:	<input type="checkbox"/>	TEMP GAUGES:	<input type="checkbox"/>	

CONTROLS COMMENTS:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7739

FILE: 7739.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER
AHU TYPE:	MZ-3	MFG.:	TRANE CLIMATE CHANGER
		MODEL:	TYPE 14
SZ - Single Zone	H&V - Heating & Vntllng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)	
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System	
DD - Dual Duct	UH - Unit Heater	IND - Induction System	
O.A. DAMPER	N/A:	OK: X	REPLACE:
R.A. DAMPER	N/A:	OK: X	REPLACE:
E.A. DAMPER	N/A: X	OK:	REPLACE:
F. & B. DAMPER	N/A: X	OK:	REPLACE:
ZONE DAMPER	N/A:	OK: X	REPLACE:
COMMENTS: OA & RA DAMPERS DISCONNECTED AND WIRED WITH OA SHUT AND RA OPEN. ZONE DAMPERS DISCONNECTED.			
DPR-ACT = Damper Actuator			
RP-ACT = Replace Actuator			
FILTER SECTION	N/A:	OK: X	REPLACE:
COMMENTS:			
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS: 5 HP
INLET VANES	N/A: X	OK:	COMMENTS:
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:
COMMENTS:			
COOLING COIL	N/A:	OK: X	REPLACE:
HEATING COIL	N/A:	OK: X	REPLACE:
PREHEAT COIL	N/A: X	OK:	REPLACE:
REHEAT COIL	N/A: X	OK:	REPLACE:
COMMENTS: DX COIL			
ELECTRIC ACTUATORS			
RP-ACT = Replace Actuator			
RP-BD = Replace Body			
AHU PUMP MOTOR	N/A:	OK: X	REPLACE:
AHU PUMP SEALS	N/A:	OK: X	REPLACE:
COMMENTS:			
PIPE INSULATION	N/A:	OK:	MISSING: X
DUCT INSULATION	N/A: X	OK:	MISSING:
COMMENTS:			

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 8 Nov-94  
PREPARED BY: CWW  
CHECKED BY: AJN  
FILE: 7739.XLS

FILE: 7739.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE:

8 Nov-94

PREPARED BY:

AJN

CHECKED BY:

AJN

BLDG:

7739

FILE:

7739.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	HW	MFG.: CRANE	MODEL: 200-385
CONVERTER TYPE:	N/A	MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC: X	POWER:	OK: X REPLACE:
COMMENTS:			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK:	MISSING: X ESTIMATED QUANTITY: 12' OF 1-1/2"
COMMENTS:			
HW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE: (B&G) PERIMETER RADIATION PUMP
HW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:			
CV PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
CV PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A:	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A:	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/17/94

PREPARED BY: AJN/CWW

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 6620 BLDG NAME: COMMUN ACT CTR

ELECTRIC METER: ☒

CONDITIONED SQFT: 31,740

GAS METER: ☒SUSPECT ACM: ☒**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 11

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

**REMARKS:**

BLDG. CONTACT: MACK MCMULLEN @ 239-9532 OR 9533

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 6620  
AHU NUMBER: AHU-1 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: WEST WING  
% OF BLDG AREA HEATED: 32

AHU UNIT TYPE MULTI ZONE NUMBER OF ZONES IF MZ UNIT: 7

CFM-HTG: 12,910 CFM-CLG: 12,910  
MIN %OA: 10 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 7.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RELIANCE RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: Y149924A1LL RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 60 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	7	7	7	7	7	0
PRES STOP:	0	16	16	16	16	16	0
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
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**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: Y IMPLEMENT DEMAND LIMIT CNTRLS? Y  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: Y TIME CLOCK: Y  
RET AIR DMPR CONTROL: Y ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? Y  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 6620  
AHU NUMBER: AHU-2 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: BALL ROOM  
% OF BLDG AREA HEATED: 23

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 9,600  
MIN %OA: 30

CFM-CLG: 9,600  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE UNIT MODEL: TYPE 21  
SUPPLY FAN HP: 7.5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: GENERAL MOTOR RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: B-2222A RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 60 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	7	7	7	7	7	0
PRES STOP:	0	16	16	16	16	16	0
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
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**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SETBACK  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: Y IMPLEMENT DEMAND LIMIT CNTRLs? Y  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: Y TIME CLOCK: Y  
RET AIR DMPR CONTROL: Y ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? Y  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 6620  
AHU NUMBER: AHU-3 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: NONE SERVES AREA: KITCHEN  
% OF BLDG AREA HEATED: 14

AHU UNIT TYPE HEATING AND VENTILATING

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 10,500  
MIN %OA: 100

CFM-CLG: 0  
MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE UNIT MODEL: 21  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: MARATHON RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 1AS15TVR26BDW RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	NONE	<input type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 60 MONTH SCHEDULE NO: 1  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	7	7	7	7	7	0
PRES STOP:	0	16	16	16	16	16	0
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
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**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: N MIXED AIR DMPR CONTROL: Y IMPLEMENT DEMAND LIMIT CNTRLs? Y  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: N TIME CLOCK: Y  
RET AIR DMPR CONTROL: Y ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? Y  
EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION

EMC NO: 1406-001

CLIENT CONTRACT NO: DACA 01-94-D-0033

DATE: 10/17/94

LOCATION: FT. RILEY, KS

PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 6620

AHU NUMBER: AHU-4

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: DINNING ROOM

% OF BLDG AREA HEATED: 23

AHU UNIT TYPE SINGLE ZONE

NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 8,800

CFM-CLG: 8,800

MIN %OA: 34

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE

UNIT MODEL: 21

SUPPLY FAN HP: 5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG: DOER

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	STEAM	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 60

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	7	7	7	7	7	0
PRES STOP:	0	16	16	16	16	16	0
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC

THERMOSTAT TYPE: SINGLE SETPOINT

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: N

MIXED AIR DMPR CONTROL: N

IMPLEMENT DEMAND LIMIT CNTRLs? Y

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: Y

TIME CLOCK: Y

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? Y

EXH AIR DMPR CONTROL: N

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: AJN/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 6620

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒☒ **BOILER**

BOILER TAG: BLR-1

BOILER TYPE: LOW PRESS STEAM (&lt;15#)

FUEL TYPE: NAT. GAS

☐ **CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:

☐

CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 8

BOILER MFG: CLEAVER-BROOKS

UNIT MODEL: 153-700-4520

BLR CAP OUTPUT (BTUH): 4,520,000

BLR CAP INPUT (BTUH): 5,736,000

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 11

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: PNEUMATIC/ELECTRIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

**HW PUMP**

PUMP TAG: 1

PUMP HP: 1.5

PUMP MFG:

PUMP SERVICE: HW PUMP

PUMP MODEL:

**HW PUMP**

PUMP TAG: 2

PUMP HP: 0.5

PUMP MFG:

PUMP SERVICE: HW PUMP

PUMP MODEL:

## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: AJN/CWW

### PERIMETER RADIATION SURVEY OBSERVATIONS

BLDG NUMBER:	6620	BLDG NAME:	COMMUN ACT CTR
PER RAD (SYSTEM TAG) NO:	RAD-1	RAD SYS LOCATION:	RMS-103,106,109,11,114,115,116
SOURCE OF HEATING:	BLR-1	SERVES AREA:	
RADIATION UNIT TYPE:	HW	% AREA HTG:	8

### RADIATION PUMP

PUMP TAG: 1 PUMP HP: 0.5 PUMP MFG:   
PUMP MODEL:

### SCHEDULE

DAYS SCHEDULE NO: 11 MONTHS SCHEDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### CONTROLS

TYPE OF RAD. CONTROLS: ELECTRIC

RADIATION CONTROL:

OCC HT SPACE SP: 0

UNOCC HT SPACE SP: 0

RESET CONTROL: ☒

CONTROL COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/17/94  
PREPARED BY: AJN/CWW

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 6620 BLDG NAME: COMMUN ACT CTR  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): MER  
AHU'S SERVED: AHU-1,2,4  
UNIT TYPE AIR COOLED CONDENSING UNIT W/ CHW

**NAMEPLATE**

CHILLER MFG:	TSI	TOWER MFG:	TSI
CHILLER MODEL:	SC2CM130SP	# OF TOWER FANS:	12
CHILLER SERIAL NO:	8723-2	TOWER FAN V:	0
CHILLER V:	460	TOWER FAN AMPS:	0
CHILLER AMPS:	237	TOWER FAN HP:	1
CHILLER PH:	3		
CHILLER CAP (TONS):	130		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 11 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	0	0	0	0	0	0
PRES STOP:	24	24	24	24	24	24	24
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	16	16	16	16	16	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 42  
CWR SETPOINT: 0

CNWS SETPOINT: 0  
CNWR SETPOINT: 0

PRESS LITE HI: ☐ N  
PRESS LITE LOW: ☐ N  
PRESS GAUGES: ☐ Y

TEMP LITE HI: ☐ N  
TEMP LITE LOW: ☐ N  
TEMP GAUGES: ☐ N

OTHER INDICATIONS:

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 7.5  
PUMP SERVICE: CW PUMP (Chilled Water)

PUMP MFG: GOULD  
PUMP MODEL: 6330778-03

**CW and CNW PUMPS**

PUMP TAG: 2 PUMP HP: 7.5  
PUMP SERVICE: CW PUMP (Chilled Water)

PUMP MFG: GOULD  
PUMP MODEL: 6330778-03

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 6620

FILE: 6620.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	MER BASEMENT					
AHU TYPE:	MZ-7	MFG.:	TRANE CLIMATE CHANGER	MODEL:	TYPE 25			
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP- ACT:	
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:		AHU BODY IS RUSTED				DPR-ACT = Damper Actuator		
						RP-ACT = Replace Actuator		
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	STEAM	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:						RP-ACT = Replace Actuator		
						RP-BD = Replace Body		
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 6620

FILE: 6620.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	MEZZANINE					
AHU TYPE:	SZ	MFG.:	TRANE CLIMATE CHANGER	MODEL:	TYPE 21			
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:	
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
COMMENTS:		PLENUM RETURN KITCHEN AREA						
		DPR-ACT = Damper Actuator						
		RP-ACT = Replace Actuator						
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK:	REPLACE FAN BEARINGS: X		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:		N/A		
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP-ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	STEAM	SIZE:	CNTLVLV	OK: X	RP-ACT: RP-BD:	
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:	
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT: RP-BD:	
COMMENTS:		RP-ACT = Replace Actuator						
		RP-BD = Replace Body						
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 6620

FILE: 6620.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-3	LOCATION (Rm)	MEZZANINE					
AHU TYPE:	H&V	MFG.:	MODEL:					
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:	
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
F. & B. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK: X	RP-ACT:	
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP-ACT:	
COMMENTS: OLD COIL SETTING BY AHU. DAMPER POSITIONING SENSORS								DPR-ACT = Damper Actuator
ON ACTUATORS ARE NOT FUNCTIONING								RP-ACT = Replace Actuator
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:		COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:		COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:		COMMENTS:				
RETURN FAN MOTOR	OK:	REPLACE:		COMMENTS:				
COMMENTS:								
COOLING COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT:	RP-BD:
HEATING COIL	N/A:	OK: X	STEAM	SIZE:	CNTLVLV	OK: X	RP-ACT:	RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT:	RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP-ACT:	RP-BD:
COMMENTS:								RP-ACT = Replace Actuator
								RP-BD = Replace Body
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 6620

FILE: 6620.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-4	LOCATION (Rm)	MEZZANINE					
AHU TYPE:	SZ	MFG.:	TRANE CLIMATE CHANGER	MODEL:	TYPE 21			
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	OLD MOTOR, FAN HAS A BAD BEARING. THERE IS AN ABANDONED						DPR-ACT = Damper Actuator	
	COIL LEFT IN AHU MIDWAY BETWEEN HEATING & COOLING COIL.						RP-ACT = Replace Actuator	
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK:	REPLACE FAN BEARINGS: X	COMMENTS: FAN IS OLD					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:					
COMMENTS:	AHU BADLY RUSTED, BUT OK							
	NOISY							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:	RP-ACT = Replace Actuator							
	RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								



PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

FMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

FILE: 6620.XLS

BLDG: 6620

## REFRIGERATION EQUIPMENT - HVAC UPGRADE OBSERVATIONS

CHILLER / EQUIP. NO.		CH-1	LOCATION (RM)		MER BASEMENT
REFG. EQUIP. TYPE:		R-ACCU	MFG.:	TSI	MODEL: SC2CNV30SP
C-WCT = Centrifugal w/ Water Side Cooling Tower			R-ACCU = Reciprocating w/ Air Cooled Condensing Unit		
R-WCT = Reciprocating w/ Water Side Cooling Tower			ASB-WCT = Absorption w/ Water Side Cooling Tower		
ACCU = Air Cooled Condensing Unit			CT = Cooling Tower		
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	
COMP. MOTOR	N/A:	OK: X	REPLACE:	SIZE:	
CT/ACCU FAN MTR	N/A:	OK:	REPLACE:	SIZE:	
CT/ACCU FAN MTR	N/A:	OK:	REPLACE:	SIZE:	
CT/ACCU FAN MTR	N/A:	OK:	REPLACE:	SIZE:	
COMMENTS: 1 COMPRESSOR IS NEW, 2 COMPRESSORS REPLACED. ~2-4 YRS. OLD. 1 COMPRESSOR IS ORIGINAL.					
COOLING TOWER	N/A: X	OK:	REPLACE:	SIZE:	
AIR COOLED COND.	N/A: X	OK:	REPLACE:	SIZE:	
COMMENTS:					
CHILLER INSUL.	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:	
CHW PIPE INSUL.	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:	
COMMENTS:					
CHW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:	
CHW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:	
CHW PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:	
CHW PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:	
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
CHW PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:	
CHW PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:	
COMMENTS: INSULATION MISSING AROUND PUMP 1 OF 2 PUMPS					

LOCATION: FT. RILEY, KANSAS

CHECKED BY: AJN

FILE: 6620.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 12 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 6620

FILE: 6620.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	STM	MFG.:	CLEAVER BROOKS
CONVERTER TYPE:	STM/HW	MFG.:	MODEL: I53-700-4520
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X
COMMENTS:	TYPICAL OF (2) BOILERS		
	BOILERS LOOK TO BE IN GOOD CONDITION		
BLR PUMP MOTOR	N/A:	OK: X	REPLACE:
BLR PUMP SEALS	N/A:	OK:	REPLACE: X
COMMENTS:	REPLACE BOTH PUMPS, OLD & LEAKING, UNINSULATED. LABELED BOILER FEED PUMPS		
BLR INSULATION	N/A:	OK: X	MISSING:
PIPE INSULATION	N/A:	OK: X	MISSING:
COMMENTS:			
HW PUMP MOTOR	N/A:	OK: X	REPLACE:
HW PUMP SEALS	N/A:	OK: X	REPLACE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:
HW PUMP SEALS	N/A:	OK:	REPLACE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:
HW PUMP SEALS	N/A:	OK:	REPLACE:
HW PUMP MOTOR	N/A:	OK:	REPLACE:
HW PUMP SEALS	N/A:	OK:	REPLACE:
COMMENTS:	THIS IS THE ONLY HOT WATER PUMP. SERVES PERIMETER RADIATION		
CV PUMP MOTOR	N/A: X	OK:	REPLACE:
CV PUMP SEALS	N/A: X	OK:	REPLACE:
COMMENTS:			
CV INSULATION	N/A:	OK: X	MISSING:
CV PIPE INSUL.	N/A:	OK: X	MISSING:
COMMENTS:			



## EMC ENGINEERS, INC.

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

### BUILDING DATA SURVEY OBSERVATIONS

BLDG NUMBER: 7604 BLDG NAME: GEN INST BLDG

ELECTRIC METER: Y  
GAS METER: Y  
SUSPECT ACM: N

CONDITIONED SQFT: 13,493

### BUILDING OCCUPANCY SCHEDULE

BUILDING SCHEDULE NO: 61

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	7	7	7	7	7	0
PRES STOP:	0	23	23	23	23	15	0
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	23	23	23	23	15	0

### REMARKS:

BLDG. contact: Ms Foreman @ ext. 9475

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7604

AHU NUMBER: AHU-1

AHU LOCATION: MER

REFRIG SYS # SRVNG AHU: CH-1

SERVES AREA: WEST HALF OF BLDG.

% OF BLDG AREA HEATED: 45

AHU UNIT TYPE MULTI ZONE

NUMBER OF ZONES IF MZ UNIT: 5

CFM-HTG: 6,000

CFM-CLG: 6,000

MIN %OA: 15

MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE

UNIT MODEL: MODULAR

SUPPLY FAN HP: 5

RET/EXH FAN HP: 0

SUPPLY FAN MTR MFG:

RET/EXH FAN MTR MFG:

SUPPLY FAN MTR MODEL:

RET/EXH FAN MTR MODEL:

COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 61

MONTH SCHEDULE NO: 3

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	7	7	7	7	7	0
PRES STOP:	0	23	23	23	23	15	0
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	23	23	23	23	15	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC/ELECTRIC

THERMOSTAT TYPE: OTHER

PRESENT TEMP WINTR OCC: 0

HOT DECK DEG F: 0

PRESENT TEMP WINTR UNOCC: 0

COLD DECK DEG F: 0

PRESENT TEMP SUM OCC: 0

MIXED AIR DEG F: 0

PRESENT TEMP SUM UNOCC: 0

OTHER SETPOINT DESCRIP:

OTHER SETPOINT DEG F: 0

MIN OA DMPR CONTROL: Y

MIXED AIR DMPR CONTROL: Y

IMPLEMENT DEMAND LIMIT CNTRLS? Y

MAX OA DMPR CONTROL: Y

ECONOMIZER DB CONTROL: Y

TIME CLOCK: Y

RET AIR DMPR CONTROL: Y

ECONOMIZER WB CONTROL: N

TIME CLOCK OPERATIONAL? Y

EXH AIR DMPR CONTROL: Y

OTHER CONTROLS DESCR:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7604  
AHU NUMBER: AHU-2 AHU LOCATION: MER  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: EAST HALF OF BLDG.  
% OF BLDG AREA HEATED: 45

AHU UNIT TYPE MULTI ZONE NUMBER OF ZONES IF MZ UNIT: 5

CFM-HTG: 6,000 CFM-CLG: 6,000  
MIN %OA: 15 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: UNIT MODEL:  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 61 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	7	7	7	7	7	0
PRES STOP:	0	23	23	23	23	15	0
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	23	23	23	23	15	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒

**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC/ELECTRIC THERMOSTAT TYPE: OTHER  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 0  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 0  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 0  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: Y MIXED AIR DMPR CONTROL: Y IMPLEMENT DEMAND LIMIT CNTRL? Y  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: Y TIME CLOCK: Y  
RET AIR DMPR CONTROL: Y ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? Y  
EXH AIR DMPR CONTROL: Y

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7604  
AHU NUMBER: AHU-3 AHU LOCATION: MEZZANINE  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: SOUTH ADMIN OFFICES  
% OF BLDG AREA HEATED: 10

AHU UNIT TYPE SINGLE ZONE NUMBER OF ZONES IF MZ UNIT: 0

CFM-HTG: 2,000 CFM-CLG: 2,000  
MIN %OA: 15 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: TRANE UNIT MODEL: MCCA006MAD0E  
SUPPLY FAN HP: 2 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 61 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	7	7	7	7	7	0
PRES STOP:	0	23	23	23	23	15	0
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	23	23	23	23	15	0

MONTHS	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
ON:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 76  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 60  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 65  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: ☒ MIXED AIR DMPR CONTROL: ☒ IMPLEMENT DEMAND LIMIT CNTRLS? ☒  
MAX OA DMPR CONTROL: ☒ ECONOMIZER DB CONTROL: ☒ TIME CLOCK: ☒  
RET AIR DMPR CONTROL: ☒ ECONOMIZER WB CONTROL: ☒ TIME CLOCK OPERATIONAL? ☒  
EXH AIR DMPR CONTROL: ☒

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:



**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7604

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT \_\_\_\_\_ BLR/CONVERTER SERVES AREA OR SERVICE: ALL

**BOILER**

BOILER TAG: BLR-1

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS

☐ **CONVERTER**

CONVERTER TAG: \_\_\_\_\_

CONVERTER TYPE: \_\_\_\_\_

CONV HT SOURCE: \_\_\_\_\_



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: BURNHAM

UNIT MODEL: EW20GPF

BLR CAP OUTPUT (BTUH): 648,000

BLR CAP INPUT (BTUH): 877,000

COMMENTS: \_\_\_\_\_

**SCHEDULE**

DAYS SCHEDULE NO: 61

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS: \_\_\_\_\_

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	7	7	7	7	7	0
PRES STOP:	0	23	23	23	23	15	0
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	23	23	23	23	15	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: ☒ Y

OPERATING SETPOINT: 0 DEG F or PSIG

TYPE OF BURNER CONTROLS: \_\_\_\_\_

CONTROLS COMMENTS: \_\_\_\_\_

**HW PUMP**

PUMP TAG: 1

PUMP HP: 2

PUMP MFG: US ELECTRIC

PUMP SERVICE: HW PUMP

PUMP MODEL: F108

**HW PUMP**

PUMP TAG: 2

PUMP HP: 2

PUMP MFG: US ELECTRIC

PUMP SERVICE: HW PUMP

PUMP MODEL: F108

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/11/94  
PREPARED BY: AJN/CWW

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 7604 BLDG NAME: GEN INST BLDG  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): MER  
AHU'S SERVED: AHU-1,2,3  
UNIT TYPE RECIPROCATING WITH AIR COOLED CONDENSING UNIT

**NAMEPLATE**

CHILLER MFG:	TSI	TOWER MFG:	TRANE
CHILLER MODEL:	SC2CD70	# OF TOWER FANS:	8
CHILLER SERIAL NO:	9225-2	TOWER FAN V:	208
CHILLER V:	208	TOWER FAN AMPS:	4.1
CHILLER AMPS:	135	TOWER FAN HP:	1
CHILLER PH:	3		
CHILLER CAP (TONS):	70		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 61 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	7	7	7	7	7	0
PRES STOP:	0	23	23	23	23	15	0
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	23	23	23	23	15	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
☐ ☐ ☐ ☐ ☒ ☒ ☒ ☒ ☒ ☐ ☐ ☐

**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI: N TEMP LITE HI: N OTHER INDICATIONS:  
PRESS LITE LOW: N TEMP LITE LOW: N  
PRESS GAUGES: N TEMP GAUGES: N

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 2 PUMP MFG: U S ELECTRIC  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL:

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7604

FILE: 7604.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1	LOCATION (Rm)	
AHU TYPE:	MZ (5) ZONES	MFG.:	MODEL:
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)	
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System	
DD - Dual Duct	UH - Unit Heater	IND - Induction System	
O.A. DAMPER	N/A:	OK: X	REPLACE:
R.A. DAMPER	N/A:	OK: X	REPLACE:
E.A. DAMPER	N/A: X	OK:	REPLACE:
F. & B. DAMPER	N/A: X	OK:	REPLACE:
ZONE DAMPER	N/A:	OK: X	REPLACE:
		SIZE:	DPR-ACT
		OK:	RP- ACT:
		SIZE:	DPR-ACT
		OK:	RP- ACT:
		SIZE:	DPR-ACT
		OK:	RP- ACT:
		SIZE:	DPR-ACT
		OK:	RP- ACT:
COMMENTS:			
DPR-ACT = Damper Actuator			
RP-ACT = Replace Actuator			
FILTER SECTION	N/A:	OK: X	REPLACE:
		SIZE:	
COMMENTS:			
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	
		COMMENTS:	
SUPPLY FAN MOTOR	OK: X	REPLACE:	
		COMMENTS:	
INLET VANES	N/A: X	OK:	COMMENTS:
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	
		COMMENTS: N/A	
RETURN FAN MOTOR	OK:	REPLACE:	
		COMMENTS: N/A	
COMMENTS:			
COOLING COIL	N/A:	OK: X	REPLACE:
		SIZE:	CNTLVLV
		OK: X	RP- ACT:
		RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:
		SIZE:	CNTLVLV
		OK: X	RP- ACT:
		RP-BD:	
PREHEAT COIL	N/A: X	OK:	REPLACE:
		SIZE:	CNTLVLV
		OK:	RP- ACT:
		RP-BD:	
REHEAT COIL	N/A: X	OK:	REPLACE:
		SIZE:	CNTLVLV
		OK:	RP- ACT:
		RP-BD:	
COMMENTS:			
RP-ACT = Replace Actuator			
RP-BD = Replace Body			
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:
		SIZE:	
AHU PUMP SEALS	N/A: X	OK:	REPLACE:
		SIZE:	
COMMENTS:			
PIPE INSULATION	N/A:	OK: X	MISSING:
		ESTIMATED QUANTITY:	
DUCT INSULATION	N/A:	OK: X	MISSING:
		ESTIMATED QUANTITY:	
COMMENTS:			

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7604

FILE: 7604.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-2	LOCATION (Rm)	MEZZANINE				
AHU TYPE:	MZ	MFG.:	TRANE CLIMATE CHANGER	MODEL:			
SZ - Single Zone	H&V - Heating & Vntltng.	FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.	RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater	IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:							
DPR-ACT = Damper Actuator							
RP-ACT = Replace Actuator							
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:				
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:				
INLET VANES	N/A: X	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A				
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS: N/A				
COMMENTS:							
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
PREHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
REHEAT COIL	N/A: X	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:
COMMENTS: UNIT HEATER IN MEZZANINE							
RP-ACT = Replace Actuator							
RP-BD = Replace Body							
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**EMC ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7604

FILE: 7604.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-3	LOCATION (Rm)	MEZZANINE					
AHU TYPE:	SZ	MFG.:	TRANE CLIMATE CHANGER	MODEL:				
SZ - Single Zone	H&V - Heating & Vntlng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)					
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System					
DD - Dual Duct	UH - Unit Heater		IND - Induction System					
O.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
R.A. DAMPER	N/A:	OK: X	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
E.A. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
F. & B. DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
ZONE DAMPER	N/A: X	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:	
COMMENTS:	SYSTEM NEW							
DPR-ACT = Damper Actuator								
RP- ACT = Replace Actuator								
FILTER SECTION	N/A:	OK: X	REPLACE:	SIZE:				
COMMENTS:								
SUPPLY AIR FAN	OK: X	REPLACE FAN BEARINGS:	COMMENTS:					
SUPPLY FAN MOTOR	OK: X	REPLACE:	COMMENTS:					
INLET VANES	N/A: X	OK:	COMMENTS:					
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS: N/A					
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:					
COMMENTS:								
COOLING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
HEATING COIL	N/A:	OK: X	REPLACE:	SIZE:	CNTLVLV	OK: X	RP- ACT: RP-BD:	
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT: RP-BD:	
COMMENTS:	RP- ACT = Replace Actuator							
RP-BD = Replace Body								
AHU PUMP MOTOR	N/A: X	OK:	REPLACE:	SIZE:				
AHU PUMP SEALS	N/A: X	OK:	REPLACE:	SIZE:				
COMMENTS:								
PIPE INSULATION	N/A:	OK: X	MISSING:	ESTIMATED QUANTITY:				
DUCT INSULATION	N/A: X	OK:	MISSING:	ESTIMATED QUANTITY:				
COMMENTS:								

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE  
CLIENT CONTRACT NO.: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KANSAS

DATE: 11 Nov-94  
PREPARED BY: AJN  
CHECKED BY: AJN  
FILE: 7604.XLS

FILE: 7604.XLS

[illegible]

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 11 Nov-94

PREPARED BY: AJN

CHECKED BY: AJN

BLDG: 7604

FILE: 7604.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	HW	MFG.: BURNHAM	MODEL: EW-20-G-PF
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Converter	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Converter	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: X REPLACE:
COMMENTS:			
BLR PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
COMMENTS:			
HW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A:	OK:	REPLACE: SIZE:
COMMENTS:			
CV PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			





**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001

DATE: 10/12/94

PREPARED BY: AJN/CVWW

**BUILDING DATA SURVEY OBSERVATIONS**

BLDG NUMBER: 7656 BLDG NAME: GEN INST BLDG

ELECTRIC METER: ☒ Y

CONDITIONED SQFT: 13,493

GAS METER: ☒ Y

SUSPECT ACM: ☐ N

**BUILDING OCCUPANCY SCHEDULE**

BUILDING SCHEDULE NO: 61

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	7	7	7	7	7	0
PRES STOP:	0	23	23	23	23	15	0
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	23	23	23	23	15	0

**REMARKS:**

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER:	7656	AHU LOCATION:	MEZZANINE
AHU NUMBER:	AHU-1		
REFRIG SYS # SRVNG AHU:	CH-1	SERVES AREA:	WEST HALF OF BLDG.
		% OF BLDG AREA HEATED:	50
AHU UNIT TYPE	MULTI ZONE	NUMBER OF ZONES IF MZ UNIT:	6
CFM-HTG:	7,000	CFM-CLG:	7,000
MIN %OA:	15	MAX %OA:	100

**NAMEPLATE**

UNIT MFG:		UNIT MODEL:	
SUPPLY FAN HP:	5	RET/EXH FAN HP:	0
SUPPLY FAN MTR MFG:		RET/EXH FAN MTR MFG:	
SUPPLY FAN MTR MODEL:		RET/EXH FAN MTR MODEL:	
COMMENTS:			

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HW	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO:	61	MONTH SCHEDULE NO:	3									
SCHEDULE COMMENTS:												
	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:					
PRES START:	0	7	7	7	7	7	0					
PRES STOP:	0	23	23	23	23	15	0					
REQ START:	0	7	7	7	7	7	0					
REQ STOP:	0	23	23	23	23	15	0					
MONTHS ON:	JAN: <input checked="" type="checkbox"/>	FEB: <input checked="" type="checkbox"/>	MAR: <input checked="" type="checkbox"/>	APR: <input checked="" type="checkbox"/>	MAY: <input checked="" type="checkbox"/>	JUN: <input checked="" type="checkbox"/>	JUL: <input checked="" type="checkbox"/>	AUG: <input checked="" type="checkbox"/>	SEP: <input checked="" type="checkbox"/>	OCT: <input checked="" type="checkbox"/>	NOV: <input checked="" type="checkbox"/>	DEC: <input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF CONTROLS:	ELECTRIC	THERMOSTAT TYPE:	SINGLE SETPOINT
PRESENT TEMP WINTR OCC:	0	HOT DECK DEG F:	0
PRESENT TEMP WINTR UNOCC:	0	COLD DECK DEG F:	0
PRESENT TEMP SUM OCC:	0	MIXED AIR DEG F:	0
PRESENT TEMP SUM UNOCC:	0	OTHER SETPOINT DESCRIP:	
		OTHER SETPOINT DEG F:	0
MIN OA DMPR CONTROL:	<input checked="" type="checkbox"/>	MIXED AIR DMPR CONTROL:	<input checked="" type="checkbox"/>
MAX OA DMPR CONTROL:	<input checked="" type="checkbox"/>	ECONOMIZER DB CONTROL:	<input checked="" type="checkbox"/>
RET AIR DMPR CONTROL:	<input checked="" type="checkbox"/>	ECONOMIZER WB CONTROL:	<input checked="" type="checkbox"/>
EXH AIR DMPR CONTROL:	<input checked="" type="checkbox"/>	IMPLEMENT DEMAND LIMIT CNTRLS?	<input checked="" type="checkbox"/>
		TIME CLOCK:	<input checked="" type="checkbox"/>
		TIME CLOCK OPERATIONAL?	<input checked="" type="checkbox"/>
OTHER CONTROLS DESCR:			
CONTROLS COMMENTS:			

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASABILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

**AIR HANDLING UNIT SURVEY OBSERVATIONS**

BUILDING NUMBER: 7656  
AHU NUMBER: AHU-2 AHU LOCATION: MEZZANINE MER  
REFRIG SYS # SRVNG AHU: CH-1 SERVES AREA: EAST HALF OF BLDG.  
% OF BLDG AREA HEATED: 50

AHU UNIT TYPE MULTI ZONE NUMBER OF ZONES IF MZ UNIT: 6

CFM-HTG: 7,000 CFM-CLG: 7,000  
MIN %OA: 15 MAX %OA: 100

**NAMEPLATE**

UNIT MFG: MCQUAY UNIT MODEL: LML114EH  
SUPPLY FAN HP: 5 RET/EXH FAN HP: 0  
SUPPLY FAN MTR MFG: MAGNETEK RET/EXH FAN MTR MFG:  
SUPPLY FAN MTR MODEL: 6-3556253-02 RET/EXH FAN MTR MODEL:  
COMMENTS:

**COILS**

Coil	Coil Type	Modulating Valve?
PREHEAT COIL:	NONE	<input type="checkbox"/>
HEATING COIL:	HOT WATER	<input checked="" type="checkbox"/>
REHEAT COIL:	NONE	<input type="checkbox"/>
HUMIDIFIER:	NONE	<input type="checkbox"/>
COOLING COIL:	CW	<input checked="" type="checkbox"/>

**SCHEDULE**

DAY SCHEDULE NO: 61 MONTH SCHEDULE NO: 3  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	7	7	7	7	7	0
PRES STOP:	0	23	23	23	23	15	0
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	23	23	23	23	15	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
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**CONTROLS**

TYPE OF CONTROLS: PNEUMATIC THERMOSTAT TYPE: SINGLE SETPOINT  
PRESENT TEMP WINTR OCC: 0 HOT DECK DEG F: 70  
PRESENT TEMP WINTR UNOCC: 0 COLD DECK DEG F: 60  
PRESENT TEMP SUM OCC: 0 MIXED AIR DEG F: 69  
PRESENT TEMP SUM UNOCC: 0 OTHER SETPOINT DESCRIP:  
OTHER SETPOINT DEG F: 0  
MIN OA DMPR CONTROL: Y MIXED AIR DMPR CONTROL: N IMPLEMENT DEMAND LIMIT CNTRLS? N  
MAX OA DMPR CONTROL: Y ECONOMIZER DB CONTROL: Y TIME CLOCK: Y  
RET AIR DMPR CONTROL: Y ECONOMIZER WB CONTROL: N TIME CLOCK OPERATIONAL? Y  
EXH AIR DMPR CONTROL: Y

OTHER CONTROLS DESCR:  
CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

**BOILER AND CONVERTER SURVEY OBSERVATIONS**

BUILDING NUMBER: 7656

BOILER RM LOCATION: MER

**BOILER UNIT**

SOURCE OF BLDG HEAT

BLR/CONVERTER SERVES AREA OR SERVICE: ALL

☒ **BOILER**

BOILER TAG: BLR-1

BOILER TYPE: HW (UP TO 250 DEG)

FUEL TYPE: NAT. GAS

☐ **CONVERTER**

CONVERTER TAG:

CONVERTER TYPE:

CONV HT SOURCE:



CENTRAL PLANT DIRECT

**NAMEPLATE**

% AREA HEATED BY BB RADIATION: 0

BOILER MFG: PAWNEE

UNIT MODEL: A-250

BLR CAP OUTPUT (BTUH): 6,900,000

BLR CAP INPUT (BTUH): 8,265,000

COMMENTS:

**SCHEDULE**

DAYS SCHEDULE NO: 61

MONTH SECHDULE NO: 1

SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	7	7	7	7	7	0
PRES STOP:	0	23	23	23	23	15	0
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	23	23	23	23	15	0

MONTHS ON:	JAN:	FEB:	MAR:	APR:	MAY:	JUN:	JUL:	AUG:	SEP:	OCT:	NOV:	DEC:
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTROLS**

TYPE OF BLR CONTROLS: PNEUMATIC

RESET CONTROLS: Y

OPERATING SETPOINT: 207 DEG F or PSIG

TYPE OF BURNER CONTROLS:

CONTROLS COMMENTS:

**EMC ENGINEERS, INC.**

PROJECT NAME: EEAP, FEASIBILITY STUDY FOR INSTALLATION  
CLIENT CONTRACT NO: DACA 01-94-D-0033  
LOCATION: FT. RILEY, KS

EMC NO: 1406-001  
DATE: 10/12/94  
PREPARED BY: AJN/CWW

**REFRIGERATION EQUIPMENT SURVEY OBSERVATIONS**

BLDG NUMBER: 7656 BLDG NAME: GEN INST BLDG  
REF. UNIT NUMBER/TAG: CH-1 LOCATION (MER#): MER  
AHU'S SERVED: AHU-1,2  
UNIT TYPE: RECIPROCATING WITH AIR COOLED CONDENSING UNIT

**NAMEPLATE**

CHILLER MFG:	TSI	TOWER MFG:	TSI
CHILLER MODEL:	SC2CD70	# OF TOWER FANS:	6
CHILLER SERIAL NO:		TOWER FAN V:	208
CHILLER V:	208	TOWER FAN AMPS:	4.8
CHILLER AMPS:	135	TOWER FAN HP:	1
CHILLER PH:	3		
CHILLER CAP (TONS):	73.8		
COMMENTS:			

**SCHEDULE**

DAYS SCHEDULE NO: 61 MONTHS SCHEDULE NO: 2  
SCHEDULE COMMENTS:

	SUN:	MON:	TUE:	WED:	THUR:	FRI:	SAT:
PRES START:	0	7	7	7	7	7	0
PRES STOP:	0	23	23	23	23	15	0
REQ START:	0	7	7	7	7	7	0
REQ STOP:	0	23	23	23	23	15	0

MONTHS ON: JAN: FEB: MAR: APR: MAY: JUN: JUL: AUG: SEP: OCT: NOV: DEC:  
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**CONTROLS**

TYPE OF CONTROLS: ELECTRIC

CWS SETPOINT: 0 CNWS SETPOINT: 0  
CWR SETPOINT: 0 CNWR SETPOINT: 0

PRESS LITE HI: ☐ TEMP LITE HI: ☐ OTHER INDICATIONS:  
PRESS LITE LOW: ☐ TEMP LITE LOW: ☐  
PRESS GAUGES: ☐ TEMP GAUGES: ☐

CONTROLS COMMENTS:

**CW and CNW PUMPS**

PUMP TAG: 1 PUMP HP: 3 PUMP MFG: MARATHON  
PUMP SERVICE: CW PUMP (Chilled Water) PUMP MODEL: YJ182TTDR5326AB

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7656

FILE: 7656.XLS

**AIR HANDLING UNIT - HVAC UPGRADE OBSERVATIONS**

AHU NO.:	AHU-1,2	LOCATION (Rm)					
AHU TYPE:	MFG.:		MODEL:				
SZ - Single Zone	H&V - Heating & Vntltng.		FC - Fan Coil (Indicate 2P for 2 Pipe or 4P for 4 Pipe)				
MZ - Multizone	VAV - Variable Air Vol.		RHT - Reheat System				
DD - Dual Duct	UH - Unit Heater		IND - Induction System				
O.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
R.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
E.A. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
F. & B. DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
ZONE DAMPER	N/A:	OK:	REPLACE:	SIZE:	DPR-ACT	OK:	RP- ACT:
COMMENTS:		ALL NEW EQUIPMENT.					
		LOOKS GOOD.					
		SEE PHOTOS					
		DPR-ACT = Damper Actuator					
		RP-ACT = Replace Actuator					
FILTER SECTION	N/A:	OK:	REPLACE:	SIZE:			
COMMENTS:							
SUPPLY AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS:				
SUPPLY FAN MOTOR	OK:	REPLACE:	COMMENTS:				
INLET VANES	N/A:	OK:	COMMENTS:				
RETURN AIR FAN	OK:	REPLACE FAN BEARINGS:	COMMENTS:				
RETURN FAN MOTOR	OK:	REPLACE:	COMMENTS:				
COMMENTS:							
COOLING COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:
HEATING COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:
PREHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:
REHEAT COIL	N/A:	OK:	REPLACE:	SIZE:	CNTLVLV	OK:	RP- ACT:
COMMENTS:		RP-ACT = Replace Actuator					
		RP-BD = Replace Body					
AHU PUMP MOTOR	N/A:	OK:	REPLACE:	SIZE:			
AHU PUMP SEALS	N/A:	OK:	REPLACE:	SIZE:			
COMMENTS:							
PIPE INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:			
DUCT INSULATION	N/A:	OK:	MISSING:	ESTIMATED QUANTITY:			
COMMENTS:							

**E M C ENGINEERS, INC.**

PROJECT: EEAP, FEASIBILITY STUDY FOR HVAC UPGRADE

CLIENT CONTRACT NO.: DACA 01-94-D-0033

LOCATION: FT. RILEY, KANSAS

EMC NO.: 1406-005

DATE: 8 Nov-94

PREPARED BY: CWW

CHECKED BY: AJN

BLDG: 7656

FILE: 7656.XLS

**BOILER & CONVERTER - HVAC UPGRADE OBSERVATIONS**

BOILER/CONVERTER NO.	BLR-1	LOCATION (RM)	MER
BOILER TYPE:	HW	MFG.: PAWNEE	MODEL: A-250
CONVERTER TYPE:		MFG.:	MODEL:
STM - Steam	STM/HW - Steam to Hot Water Conv.	HTHW/STM - High Temp HW to Steam Convertor	
HW - Hot Water	HTHW/HW - High Temp. HW to HW Cv.	DHW - Domestic Hot Water Convertor	
BOILER BURNER	ATMOSPHERIC:	POWER: X	OK: REPLACE:
COMMENTS:	MER HAS BEEN RE-PIPED.		
	BOILER HAS A REPAIR DATE STAMPED ON IT AS 1/7/93		
BLR PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
BLR PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
BLR INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
PIPE INSULATION	N/A:	OK: X	MISSING: ESTIMATED QUANTITY:
COMMENTS:			
HW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE: 3 HP
HW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
HW PUMP MOTOR	N/A:	OK: X	REPLACE: SIZE: 3 HP
HW PUMP SEALS	N/A:	OK: X	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
HW PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
HW PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV PUMP MOTOR	N/A: X	OK:	REPLACE: SIZE:
CV PUMP SEALS	N/A: X	OK:	REPLACE: SIZE:
COMMENTS:			
CV INSULATION	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
CV PIPE INSUL.	N/A: X	OK:	MISSING: ESTIMATED QUANTITY:
COMMENTS:			